

**EFFECTS OF INSECURITY ON THE PROFITABILITY OF MATATU INDUSTRY IN
NAIROBI COUNTY**

BY

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DECLARATION

I declare that this Dissertation is my original work and has not been previously published or submitted elsewhere for an award of a degree. I also declare that this dissertation contains no material written or published by other people except where due reference is made and author duly acknowledged

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ABSTRACT

The study sought to examine the effects of insecurity on the profitability of matatu industry in Nairobi County. Specifically, the study sought to determine the effect of violent, non-violent and gender-based violence insecurity on the matatu industry profitability in Nairobi County. The target population of the study was 197 Public Service Vehicle SACCOS registered in Nairobi in 2019. The choice of the target population is informed by the fact that the 197 Public Service Vehicles SACCOS are well regulated hence the ease for identification, sampling and data collection. The study adopted an exploratory and descriptive research design. This was informed by the fact that the study sought to explain in detail on the effects of insecurity in the public transport on the transport sector performance. Structured questionnaires with open-ended question were used. A simple Ordinary Least Square regression model was applied to estimate the effect of violent, non-violent and gender-based violence insecurity on the matatu industry profitability. Upon the actual data collection, responses from 182 Public Service Vehicles SACCOS were received which translated to a response rate of 92.39%. The study found that violent, non – violent and gender – based insecurity negatively affects profitability of matatu industry in Nairobi County in Kenya. From the study findings, non – violent insecurities comprising of theft of passengers’ luggage and drugging have the highest negative effect on profitability. This could be explained by the fact that they are the easiest to be perpetrated and therefore are more likely to be rampant as opposed to violent insecurities which are easily noticeable and require much effort and planning for the perpetrators to commit. The study also concludes that although gender – based insecurities negatively affect profitability of matatu industry in Nairobi County in Kenya, the magnitude of their effect is suppressed. This could be explained by the fact that they are less likely to be reported as opposed to other forms of insecurities. Firstly, the study recommends a multi- agent and a multi-stakeholder approach to tackle insecurity in the matatu industry. Secondly is the need for awareness creation and sensitization to the matatu owners and SACCOS on the need to enhance security in their areas of operations given the negative effect insecurity has on their businesses. Thirdly, Efforts such as employing personal guards at the matatu terminals, installing matatus with security monitoring devices would go a long way in reducing such insecurity incidences in the industry. Fourthly, regulations by the National Transport Authority requiring matatu SACCOS to put up security measures and supervise adherence to these regulations is a welcome policy action. Finally, there is the need for national and county government to form a special security unit to deal with insecurity incidences within Nairobi Central Business District and the Nairobi metropolitan at large.

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DEDICATION

I dedicate this work to my family for their patience and support during my long absence from home to accomplish this work.

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ACRONYMS AND ABBREVIATIONS

CBD	Central Business District
GBV	Gender Based Violence
MOA	Matatu Owners Association
MTR	Mass Transit Railway
NTSA	National Transport & Safety Authority
PSV	Public Service Vehicle
SACCOS	Savings and Credit Co-Operative Societies
SPSS	Statistical Package for Social Sciences
UNEP	United Nations Environmental Program
USA	United States of America

OPERATIONAL DEFINITION OF TERMS

Insecurity: This refers to Uncertainty or anxiety about oneself; lack of confidence. In the study, insecurity was defined by presence of theft, physical assault, matatu hijacking, Sexual violence and harassment and drugging in matatu.

Profitability: This refers to a business's ability to produce a return on an investment based on its resources in comparison with an alternative investment. In the study, this was defined by the change in the business revenues upon the occurrence of insecurity incidence

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Transportation networks are conduits through which economic activity takes place. The movement of goods and services via public transport is a daily activity that is inevitable within the economy. It involves use of road transport and railway, though road transport accounts for the largest proportion of public transport. It is notable that incentivizing the public to use public transport is more than the aspects of convince and effectiveness. Of most importance is safety of the users of these means. As such, Ceccato (2014) asserts that stakeholders involved in planning of public transport should pay a lot of attention towards safety and conformity of users (Ceccato, 2014). Nairobi County is one of the 47 counties in Kenya. The county hosts the country's capital city. Currently, despite only 15 percent of the city's 3 million residents drive to work (KNBS, 2016), implying that about 85 percent rely on public transport mainly matatus for commuting within the county. This signifies the importance of the matatu industry in so far as provision of transport services is concerned. It is on this note that the study seeks to investigate the effect of matatu insecurity on profitability of matatu industry in Nairobi.

Crime concentrates and is potentially specialized within and around the public transport system. The public transport network brings increased accessibility to places, and this creates distinctive patterns of offending. (Securex Africa 2018), The major risk in the industry currently is the high level of insecurity dynamics associated with the industry. This has adversely affected customer trust which has had a bearing on profitability as well. However, early research and seminal works reveal high insecurity risks within public transport system, Ngare (2020) asserts that overloading and overcrowding of PSVs influences crime, making the passengers vulnerable to pickpocketing and other related thefts. Overloading and overcrowding are safety and security features that must never be overlooked, this

phenomenon is still rampant especially for Public Service Vehicle (PSVs) heading to the slums and the sub-urban areas – always packed to more than capacity. According to (Wangari, 2016), various factors contribute to crime in Public Transport, including locations of bus stops, congestion, unlicensed and unroadworthy public vehicles, lack of proper security regulations, training and awareness of the work environment.

Globally, safety has been at the forefront of transport sector planning for more than a decade. However, despite all the attention from politicians, decision-makers, and scholars, there still exists a gap in knowledge on how travel safety perceptions might influence perceptions of accessibility. In order to encourage both increased use and further development of existing sustainable transport systems, such as public transport, there exists a need to focus on attributes that have the potential of affecting perceptions of public transport sector. Safety of passengers and their property while on transit is one of these key attributes that if not addressed stand to damage the perception of the passengers leading to reduced usage and mistrust in this mode of transport. Further, safety in the public transport sector affects the quality of the service offered by the sector from the dimensions of functionality, information and comfort. This therefore motivates the need for this study in examining how various forms of insecurity in the public transport affects performance of the sector from the profitability point of view.

1.1.1 Insecurity in public transport

Insecurity in public transport system can be broadly categorized into three categories namely: violent, non-violent and the gender-based violence insecurity. Violent insecurity is basically insecurity that is perpetrated through intentional use of physical force or power, threatened or actual, against passengers. Such forms of insecurity include physical assault and matatu

hijacking (Clarke,1996). On the other hand, non-violent insecurity is basically insecurity that is perpetrated without any form of intentional use of physical force or power, threatened or actual, against passengers. Such forms of insecurity include theft of passenger property and drugging of passengers in transit (Bernasco and Block 2011). Third is the Gender-based insecurity, women traveling on public transportation in cities experience gender-based violence, particularly sexual harassment, which harms their social and economic well-being. Several interventions to address gender-based violence on public transportation are gaining traction, although the evidence base supporting them is limited. Strategies that address this violence should acknowledge that (1) women have specific needs, (2) societal behaviors must change, (3) legal reforms can empower women, (4) transit agencies need more enforcement capacity, and (5) gender-disaggregated data are necessary. (Williams, Malik and McTamghan 2020). A Geopoll survey in November 2016 revealed that 41% of the respondents experienced physical assault while on board a matatu. 47% of women reported to have been harassed, verbally or physically, at least once. This shows the high prevalence of gender-based insecurity in the matatu industry.

Globally, insecurity in the public transport systems has been widely reviewed implying that it's a global menace. According to Chui and Ong (2018), the overcrowding of passengers at the public transport terminals especially during rush hours increases the level of susceptibility of crime commitments and women are more likely to experience insecurity incidences compared to their male counterparts. Insecurity in public transport is becoming a common phenomenon even among countries regarded to be safest. For instance, Hong Kong even though it is rated among global safest cities, public transport security incidences within Mass Transit Railway and public buses have been on rise in the last few years. For instance,

in 2016, Hong Kong reported 125 public transport security incidences, 58 of which were on buses and 67 accounted for in Mass Transit Railway (Chui and Ong, 2018).

In the African context, Nigeria review of intra-urban transport in Ilesa reveals that public transport users are vulnerable to insecurity (Olojede, Daramola and Olufemi, 2016). Recklessness among public transport operators was cited as critical towards insecurity in Ilesa public transport. Further, the study found out that private car owners are an exception towards insecurity. However, among the most vulnerable groups towards public transport insecurity are passengers and pedestrians using commercial motorcycle.

In the Kenyan context, most Kenyans approximately 95%, rely on public transport on day – to – day basis. The performance of public transport in Kenya asserts that in 1990, licensed Matatus were 17,600 in total. However, recent statistics indicate that public transport vehicles operating in the country today are over 100,000 (UNEP, 2016). Matatu industry in Kenya is the popular means of transport commonly used in the country. However, the industry is faced with myriad of challenges with the surging level of insecurity undermining the industry's efficiency and performance at large. According to a recent GeoPoll survey conducted among Kenyan residents on safety using Public Transport Vehicles (Matatus) in the year 2016, a vast majority of those who commute using Matatus have experienced harassment in form of insults. The number of commuters who reported to have been physically violated by Matatu crew was at 41% with a majority saying they have never been victims of physical violence.

To address insecurity menace in public transport, the government, through National Transport & Safety Authority (NTSA) in the recent past enforced regulations that require PSV operators to join independent, Government-registered transport companies or Savings and Credit Co-operatives (SACCOS). However, despite these efforts by the

government, cases of insecurity such as verbal abuse and physical assault in public transport have been on the rise. According to Geopoll (2016), its reported that matatu crew harassment of public transport users stood at 55 percent of reported cases. Women harassment was prevalent at 40 percent, in general the survey asserts that 47 percent of passengers had personally been assaulted (Geopoll, 2016).

The issue of insecurity in matatu industry in Kenya remains largely unresearched but only highlighted in news as emerging issues in public transport. Riko and Handa (2019) examined insecurity in public transport in Nairobi and found that general stealing was at 76.7% breach of public order and creating disturbance at 66.2%, physical assaults at 57.0%, robbery and robbery with violence at 52.9%), possession and usage of dangerous drugs at 49.5%, kidnapping and abduction at 26.2%, defilement at 17.8%, rape at 17.2% and theft of motor vehicle and motor vehicle parts at 14.2% hence an evidence of high prevalence of insecurity in the industry. However, the study failed to link these insecurity issues on the performance of matatu industry.

In addition, Kyalo (2006) asserts that there has been existence of conflicting groups in public transport network such as Mungiki and Kamjesh gangs which were responsible for proliferation of insecurity in public transport in Nairobi and Kiambu Counties. By a large extent, the informal organization of the industry, limited adherence to stipulated rules, inadequate industry regulation framework among other challenges. In addition, the application of empirical techniques in public transport research has been limited at best. This study therefore seeks to investigate the effect of insecurity in matatu industry profitability in Nairobi County using technical empirical techniques.

1.1.2 Profitability in public transport

Ideally, profitability is the main target of all business ventures. Without profitability the industry is likely not to survive in the long run. Public Transport like any other investment deserves to be working hard to make profits in their capacity. They have to build on strategies that ensures profitability, to offer reliable services that assures them of customer confidence, act in accordance to laws and regulations of the land and ensure they earn an integral reputation and above all for a welfare that will agitate for their rights and ensure they are not abused in their course of operation. This should be the guideline which they need to follow to ensure they achieve their main objectives as profitability.

However, in most urban areas, it is increasingly becoming difficult for public transport to compete with the private car. An increase in real income has resulted in a higher level of private car ownership and use. The ongoing process of residential sub-urbanization and employment decentralization experienced in large cities has generated a pattern of travel more suited to private car than public transport. To reverse this trend, authorities have implemented several strategies to promote Public Ttransport use. The supply of an integrated and high-quality public transport system has been one of the most favored options. Clear examples of such a policy are integrated regional public transport systems in Germany, Austria and Switzerland (Chitere, 2004). In so doing, the level of competitiveness amongst various transport modes has increased, with the basis of competition being cost, convenience, profit margin, reliability, comfort and other qualitative and quantitative considerations.

Currently, Public transport business has been in the middle of many kinds of criticism starting from abuse of customers, Increased crime rates in public transport, reckless driving among other myriad of challenges. Cases of bribes and arrest over irregularities have been on the rampant yet rates of accidents are also visible and at this state their umbrella welfare

bodies have been complaining of losing a lot of money out of different circumstances (Cliffe, 2004). It is on this note that the study sought to investigate the effect of matatu insecurity on profitability of matatu industry in Nairobi.

1.1.3 Matatu industry

In Kenya, matatu industry evolution has been substantial in meeting transport needs of majority of Kenyans both in rural and urban areas. The emergence of the industry dates back to 1950s. Upon independence in the year 1963, selection and appointment of Nairobi as the capital city led to rural – urban migration leading to population upsurge in the city. This called for the need for a reliable transport system to meet the growing transport need of Kenyans living in the environs and commuting to the city on daily basis mainly for people residing in these areas were usually too poor to afford private vehicles.

The scenario led to the emergence of mini-bus pirate taxis to offer public transport service to persons without private cars living in informal settlements around the city. With increased rural urban migration overtime, demand for public transport services grew substantially. This led to President Jomo Kenyatta issuing a decree towards legalizing matatus as a legitimate mode of provision of public transport services in Nairobi city in 1973. According to Mutongi (2006), the decree issued by President Jomo Kenyatta allowed matatu operators to offer public transport service with no form of licensing. The main idea of the president's decree was to increase and make mobility of people more efficient and create more jobs in the informal sector (Kimani et al 2004). Over the years, as Nairobi became dependent upon matatu industry as a provider of transport services, the number of matatus operating within Nairobi metropolitan area increased substantially from a small number of 400 in 1973 (Lee-Smith 1989) to over 20,000 in year 2019.

However, competition from Taxi cab is the biggest threat from alternative transport followed by competition posed by motor cycles. Competition from taxi cabs is also cited as a source of consumers bargaining power and private personal cars least seen as a threat. Competition from other alternative non-motorized transport had the lowest threat (Okwako 2017).

1.1.4 Nairobi County

Nairobi County is one of the 47 counties in Kenya. The county is perceived to be core to national government as well to national economy given that it hosts the country's capital city. In addition, it contributes the highest revenue to national government revenue collections. According to United Nation (2014), the city being the largest city in East Africa it's estimated to host a population of 3.77 million. With the upsurge on population coupled with population pressures from Nairobi environs, road transport traffic has been worse. With the collapse of the old city transport system set after independence, proliferation of private public services transport provision within the Central Business District has led to a lot of informality in matatu industry. This has had a bearing on the level of insecurity in the industry.

According to Kenya National Bureau of Statistics (2016), only 15 percent of Nairobi city's residents drives to work. This implies that a large proportion of the population largely depends on public transport for movement. The increased demand for public transport services coupled with the informality in matatu industry have led to chronic congestion in road transport. In attempts to decongest the city and enhance safety in public transport within the Central Business District, the government through National Transport and Safety Authority has made it mandatory for every matatu to be registered in a Savings and Credit Co-Operative Society (SACCOS). Further, the government has embarked on rapid expansion of major road highways connecting Nairobi with the rest of the country.

1.2 Statement of the Problem

The aspect of safety within public transport system has attracted a lot of debate and discussion among policy makers. However, empirical works around this area remains largely under researched, this study call for a need to ensure security is guaranteed for public transport service consumers to eliminate fear among the users. On the other hand, other studies posit that safety within the public transport users is not a priority but rather, users place more priority on cost effectiveness and transport system reliability (Booz Allen Hamilton, 2007; Mahmoud and Currie, 2010).

In Kenya, cases of insecurity in transport sector specifically matatu industry have been rampant. Kyalo (2006) asserts that there has been the existence of conflicting groups in public transport network such as Mungiki and Kamjesh gangs which were responsible for proliferation of insecurity in public transport in Nairobi and Kiambu Counties. Riko and Handa (2019) examined insecurity in public transport in Nairobi and found that general stealing was at 76.7% breach of public order and creating disturbance at 66.2%, physical assaults at 57.0%, robbery and robbery with violence at 52.9%), possession and usage of dangerous drugs at 49.5%, kidnapping and abduction at 26.2%, defilement at 17.8%, rape at 17.2% and theft of motor vehicle and motor vehicle parts at 14.2% hence an evidence of high prevalence of insecurity in the industry. However, the study failed to link these insecurity issues on performance of matatu industry.

The issue of insecurity in matatu industry in Kenya remains largely unresearched but only highlighted in news as emerging issues in public transport. The main challenge however has been informal operation of the industry, informal organization of the industry, lack of adherence to stipulated rules, inadequate industry regulation framework among other challenges. In addition, the application of empirical techniques in public transport research

has been limited at best. This study therefore sought to investigate the effect of insecurity on profitability of matatu industry in Nairobi County using technical empirical techniques.

1.3 Research Objectives

The study aimed at achieving some objectives which are measurable. This entailed one broad objective in line with the study topic and specific objectives drawn from the overall objective.

1.3.1 General objective

The general objective of the study was to determine the effect of violent, no-violent and gender-based violence on the matatu industry profitability in Nairobi County. The general objective of the study is in line with the research topic. Based on the general objective, the specific objectives of the study are derived accordingly.

1.3.2 Specific objectives

Specifically, the study sought:

- i. To examine the effect of violent insecurity on the profitability of matatu industry in Nairobi County.
- ii. To examine the effect of non-violent insecurity on the profitability of matatu industry in Nairobi County.
- iii. To examine the effect of gender – based violence on the profitability of matatu industry in Nairobi County.

1.4 Research Questions

The study was guided by the following research questions:

- i. How does violent insecurity in matatu affects profitability of matatu industry in Nairobi County?

- ii. What is the effect of non-violent insecurity on the profitability of matatu industry in Nairobi County?
- iii. How does the gender – based violence affect profitability of matatu industry in Nairobi County?

1.5 Justification of the Study

The findings of the research are valuable to the Matatu Owners Association (MOA) which invests money in the matatu sector. It will help them understand the level of insecurity in the matatu industry in terms of types of these insecurities, cause – factor of insecurity in the industry among other issues. It will also inform the matatu owners association in developing own and industry originated regulatory framework to address the menace.

This research is important to the national transport and safety Authority and other policy makers and regulators such as traffic department within the National Police Service (NPS). It will ensure policies they create are of beneficial value and strengthen the regulation on the matatu sector. It will help the regulator to identify key factors on which to focus, challenges, benefits and milestones gained and their continued operationalization in addressing insecurity issues in matatu industry in Kenya.

This study can be used as reference material for future researchers on similar industry of the transport industry. It is important to earlier researchers in public road transport systems. It also increases the literature and research on this type of public transport.

1.6 Scope of the Study

The study focused on Nairobi City in Nairobi County. Mainly the target group for the study was registered public transport SACCOS operating in major roads in Nairobi Central Business District (CBD) and the Nairobi metropolitan at large.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed literature to the area covered by the study. The chapter entails theoretical literature upon which the study was anchored, review of related empirical literature, conceptual framework, and operationalisation of study variables. This chapter therefore appreciates the role of literature in the study. As such the chapter supports the fact that every study is not a ground breaker but rather relies on other previous studies and theoretical propositions. The review of theoretical literature is crucial as it points out the theories which the study was anchored on and how such theories are applicable in the actual study. Secondly, the review of the empirical studies gives insights on the possible variables and analysis methods the researcher can adopt in conducting the study.

2.2 Theoretical Review

Theoretical review entails detailed discussion of theoretical propositions upon which the study was anchored on. The section is critical as it is giving the study a theoretical backing based on previous theories. By so doing, the study can formulate conceptual framework linking the dependent variable to independent variables of the study. In addition to detailed discussion of the theories, the actual application of the theories in this study is through a justification of how the theories are applicable in the study as offered in this section.

The study was anchored on three theories namely: Social disorder theory of insecurity, crime pattern theory and Opportunity – based theories of crime. The Social disorder theory of insecurity by Hunter (1971) states that insecurity is most likely predicted in neighborhoods with poor physical conditions. This theory could be applicable in explaining the insecurity in the public transport sector whereby social settings such as bus stops, fitting of graffiti in

matatus, matatus plying along unsecure areas with poor road networks could be contributory factors towards insecurity in the sector. The crime pattern theory was developed by Brantingham and Brantingham (1984). It asserts that crime is highly patterned and occurs in predictable locations. Third is the Opportunity – based theories of crime that was developed by Cohen and Felson (1979). It states that the environment within which the transport operates determines the level and occurrence of the insecurity incidences.

2.2.1 Social disorder theory of insecurity

The theory was postulated by Hunter (1971). According to this theory, insecurity is most likely predicted in neighborhoods with poor physical conditions. Further, the theory states that rapid demographic change, both in number and in socioeconomic and ethnic composition is a contributory factor towards insecurity in society. In addition, the theory asserts that the way society networks are formed and how they interact is key in perpetuating or hindering crime in the society.

According to the theory, disorders in society arising from ill social networks, inadequate or lack of social controls perpetuate society's fear for crime occurrence. The theory tries to offer a link between society attributes on one hand such as age, structure, economic status of the households, previous levels of crimes, presence of crime hot spots such as vacant houses as well as the structure of the families and insecurity on the other hand. This theory could be applicable in explaining the insecurity in the public transport sector whereby social settings such as bus stops, fitting of graffiti in matatus, matatus plying along unsecure areas with poor road networks could be contributory factors towards insecurity in the sector.

2.2.2 Crime pattern theory

Crime pattern theory was developed by Brantingham and Brantingham (1984). And in line with its name, the theory asserts that crime occurs in pattern and in predictable areas. The prediction of the theory with respect to crime occurrence is underpinned on the interaction of crime opportunities and the awareness of crime perpetrators. Therefore, based on this interaction, crime tends to happen in a few notable settings / locations for the mere reason that such settings / locations tend to attract crime perpetrators.

According to the theory, three principal components namely: nodes, paths and edges in relation to public transport shows that crime will tend to occur at the bus terminals. Majority of the bus stations will attract crime given their very nature of accommodating many people who are seeking transport services. In this regard, bus stops are paths of crime. In addition, bus stops are nodes of crime in that they bring together both the crime perpetrators and crime victims. Lastly bus stops are often located on the 'edges' of mixed land use. Since the bus stops are generally areas of transition bringing strangers together, they tend to be susceptible to crimes' occurrences. The theory is applicable in justifying the selection of public transport mode as opposed to private transport mode for the study. The theory identifies bus terminals as areas perpetrators of crime in transport sector thrive therefore implying that this mostly affects the public transport who use these terminals as opposed to private transport which rarely relies on them. This justifies the study focus on public transport as opposed to private transport.

2.2.3 Opportunity-based theories of crime

The development of opportunity – based theories of crime is linked to the works of Cohen and Felson (1979). The theories explain insecurity around the bus stops as follows: first, the day – to – day activities around the bus stops as explained by the routine activity theory

present opportunities for crime happening given the fact that they offer ground for interactions among crime perpetrators and the crime victims (passengers). The successive changes of this theory add together the conceptions of handlers (persons who keep motivated offenders out of trouble) and position managers' (persons who continue with the functioning of a place) as additional forms of controllers of delinquent prospects.

According to these theories, the routine activity theory anchors the distribution of crime around bus stops. The bus stops are therefore deemed to be socio ecosystem that facilitates criminal activities happening as follows: first, bus stops being public places bring together crime perpetrators and passengers seeking public transport services. Secondly, the movement and accumulation of the passengers around the bus stops makes them visible and easily accessible to crime perpetrators. Third, other transit passengers may deter crimes from happening by offering some form of protection on the bus stops. However, it is notable that the ability of some passengers on transit offering some protection against crime perpetration tends to decrease as the passengers targeted for crime move outward in the proximate environment of the bus stop. Lastly, security agents and other place managers charged with responsibility of combatting crimes are not generally close to and around most bus stops. The above conditions are therefore prerequisites to exposing passengers to crime offenders, provides suitable crime targets and the absence of capable protectors. This theory could be applicable in explaining the insecurity in the public transport sector whereby social settings such as bus stops, laxity of security managers at the bus terminals and large accumulation of passengers around bus stops offers a viable social ecosystem for crime happening.

2.3 Empirical Review

Several empirical studies albeit not vast have been conducted about the effect of security issues on performance of public transport globally. Urciuoli, Sternberg, Nyquist and Ekwall

(2013) conducted a study on effects of security on transport performance in Gothenburg city–Sweden. The study was motivated by the need to investigate and emphasize the negative effects of security on transport performance. The study relied on multiple case studies with data being collected from security experts using unstructured and semi-structured interviews. The study findings were that operational performance of the transport sector is majorly affected by how effective security measures are enforced within the industry. The study recommended the need for the transport company to make use of the logistics information systems in curbing insecurity incidences.

Sullivan, Caminha, Melo and Furtado (2017) researched on how insecurity influences passengers' choice of route of travel in Brazilian metropolis. The study sought to understand how passengers make optimal travel route choice given information they have about insecurity along various travel routes. Using real data from Brazilian metropolis, the study found that only very few passengers make use of transport security policies laid down in making choice of the route to use. The study further found that most passengers have a preference for travel routes with less efficiency by making bus exchanges at terminals. This finding of passengers making bus exchanges at bus terminals is a real indication of passengers having security as a critical factor in making choice of travel route to use.

Natarajan et al (2015) conducted study on public transport crime in El Salvador. The crime opportunity theory underpinned the study. The study assessed the crime problem within the El Salvador by eliciting main types of crime experienced and the ills in the public transport system in El Salvador. Primary data was collected using the Focus Group Discussions (FGDs) with respondents consisting of bus company managers, passengers, bus operators and police manning the bus stops. The study found that crimes of sexual assaults on women, robbery of passengers' personal belongings were the most commonly reported.

Neupane and Chesney-Lind (2014) conducted a study on the insecurity aspect in Nepal public transport system. The focus of the study was on the gender – based insecurity incidences directed towards women. Mixed research approaches were applied in the study with the focus being Kathmandu city. The study sample was 238 college-age women. Structured questionnaires were used for data collection. The study findings were that sexual harassment and sexual assault were rampant in public transport in Kathmandu and were mostly directed towards young women. The study found that such insecurity incidences led to mental trauma among the victims. However, the study noted that the victims were reluctant in filing official complaints upon being sexually assaulted or harassed by the public transport operators.

Within the larger Brazilian city, Paes-Machado and Levenstein (2004) examined the level of crimes on public transport commitment. The sample for the study entailed 191 respondents consisting of matatu operators, labour union officials, users, managers, and the police officers. The study generally found out that theft incidences among the public transport utilities in the larger Brazilian city is as a result of psychological power game generating financial loss, injuries and fatalities, racial tensions, and harsh policing. This therefore calls for the need to improve community policing concept with much focus being directed towards young crime perpetrators.

Yu (2011) examined the status of insecurity among the bus stops in Newark, New Jersey. The study sought to explain whether bus stops increase crime opportunities. The study was underpinned on routine activity and the crime pattern theory. Five forms of the insecurity incidences were studied in this study namely: burglary, motor vehicle theft, robbery,

aggravated assault and theft from motor vehicle. The study found out that crime levels were found to be profound in the bus stops than in other sites such as food stores.

Natarajan (2010) investigated Sexual harassment in public transport system in India. The study aimed at examining sexual harassment in public transport in post-Nirbhaya, in Delhi, India. The study sought to examine the rate of concordance between crimes victims and offenders as well as offenders and their male friends' sexual harassment offending patterns. The sample size for the survey was 766 females and 629 males drawn from Delhi National Capital Territory database. The study findings were that 61% and 51% of women and males were sexually harassed respectively. Further, 95% of insecurity victims and crime perpetrators were aware of punishment that befalls the perpetrators of such crimes. However, about two – thirds of the crime victims were skeptical of the effectiveness of the law enforcement on Sexual harassment in public transport system incidences in India.

Newton (2008) investigated bus route crime risk in urban areas in United Kingdom. Specially, the study examined bus route crime from the dimension of the environmental traits of the corridor used by the bus. In essence the study also focused on changing trends regarding changes in land, socio-economic affecting transport sector and the changing levels of crimes' risks among three UK urban areas. The study found that risk levels increased in the high crime zones. Increased number of bus stops along the corridor was found to increase the risk of crime perpetration.

In the USA, William, Ladi Sara and McTarnaghan (2020) on interventions to address gender-based violence (GBV), specifically violence against women, in public transport systems, with a focus on developing country settings found out that, Women traveling on public transportation in cities experience gender-based violence, particularly sexual

harassment, which harms their social and economic well-being. Several interventions to address gender-based violence on public transportation are gaining traction, although the evidence base supporting them is limited. Strategies that address this violence should acknowledge that (1) women have specific needs, (2) societal behaviors must change, (3) legal reforms can empower women, (4) transit agencies need more enforcement capacity, and (5) gender-disaggregated data are necessary.

Chockalingam and Vijaya (2018) analyzed students' sexual harassment in Lucknow, India. The explanatory research design was adopted by the study. The study sample was 200 tertiary female students. The study found that insecurity incidences experienced as a victim and as a witness were comparable, implying that sexual harassment incidences are uncommonly noticed by other passengers. Finally, the study found that among the female passengers, female students were targeted by crime perpetrators.

Hart and Miethe (2014) conducted a study on Street robbery and public bus stops in Henderson, Nevada State in USA. The situational risk and activity nodes case study was adopted by the study. The focus of the study was on the insecurity risks associated with bus stops. The study findings were that very minimal environmental contexts explained highly concentrated street robberies experienced in Henderson, Nevada State in USA.

In the African context, in Ilesa, Nigeria Olojede, Daramola and Olufemi (2016) examined the intra-urban transport safety. Using multistage sampling, a sample of 300 respondents was selected for the study. The study found that recklessness among public transport operators was cited as the critical factor towards insecurity in Ilesa public transport. Further, the study found out that private car owners are an exception towards insecurity. However, among the most vulnerable group towards public transport insecurity are passengers and pedestrians using the commercial motorcycle. In addition, Landman and

Kruger (2015) examined the link between crime and public transport in South Africa. The study found that passengers were highly susceptible to crimes while in transit irrespective of the means of transport they are using may it be busses, trains or mini taxis. Further, the study found that crime incidences to passengers were high at the changeover stations and drop – off points.

In Kenya, GeoPoll (2016) conducted a survey among Kenyan residents on matatu industry safety. The survey found that commuters were highly exposed to harassments mainly in form of insults from the matatu operators. The survey posits that 41% of commuters had never been physically victimized in a matatu. However, low level of reporting of the insecurity incidences was noted with majority of incidences being unreported with those citing having not reported harassment being approximately 71%. Ngare (2020) asserts that overloading and overcrowding of PSVs influences crime, making the passengers vulnerable to pickpocketing and other related thefts. Overloading and overcrowding are safety and security features that must never be overlooked, this phenomenon is still rampant especially for Public Service Vehicles heading to the slums and the sub-urban areas – always packed to more than capacity. According to (Wangari, 2016), various factors contribute to crime in Public Transport, including locations of bus stops, congestion, unlicensed and unroadworthy public vehicles, lack of proper security regulations, training and awareness of the work environment.

There is limited information available as to the extent of crime and disorder on public transport. Furthermore, discrepancies exist as to the actual levels of crime and disorder on public transport. The most likely reasons for this include the following: the multiple agencies responsible for maintaining and operating the various systems, the lack of standardized reporting and recording of crime and disorder on public transport, difficulties in analyzing the

available data, and the different policing and security arrangements in place. (Ochieng, B. (2019).

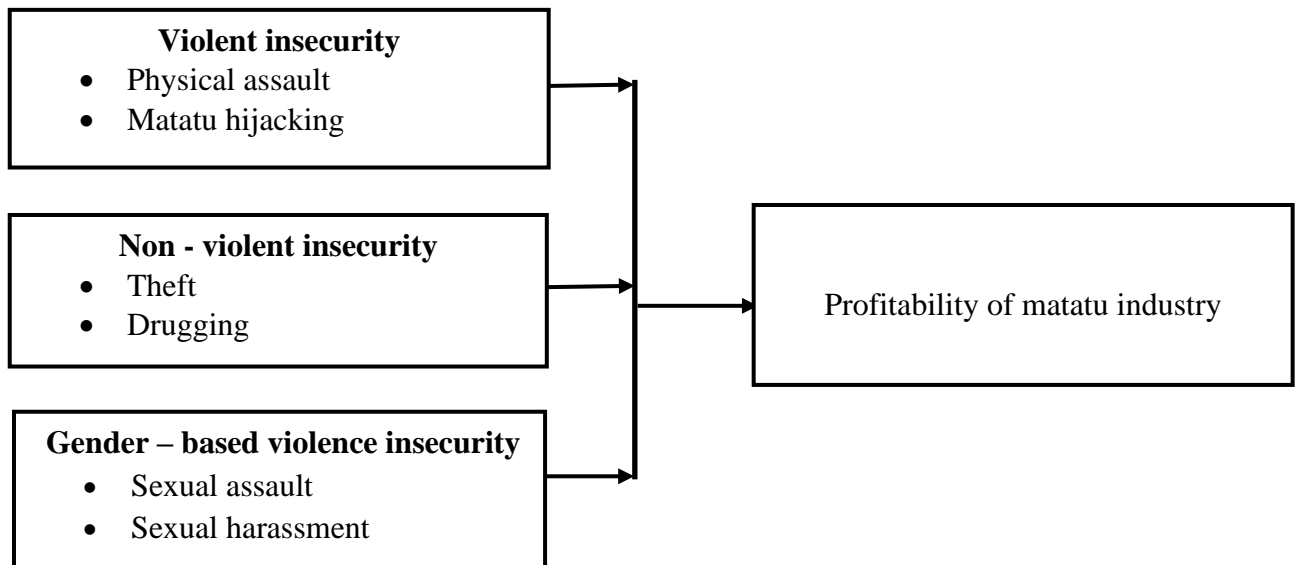
In addition, Riko and Handa (2019) examined factors that influence crime amongst matatu and boda boda operators in Nairobi, Kenya and mechanisms for mitigation and found that general stealing was at 76.7% breach of public order and creating disturbance at 66.2%, physical assaults at 57.0%, robbery and robbery with violence at 52.9%), possession and usage of dangerous drugs at 49.5%, kidnapping and abduction at 26.2%, defilement at 17.8%, rape at 17.2% and theft of motor vehicle and motor vehicle parts at 14.2% hence an evidence of high prevalence of insecurity in the industry. However, the study failed to link these insecurity issues on performance of matatu industry. From the empirical literature review, it's evident that the linkage of insecurity in public transport to financial performance of public transport sector is minimal at best. This situation is evident across all geographical settings may it be global view (global context), regional review (African context) and local review (Kenyan context). This therefore calls for studies that empirically model the link between insecurity in public transport and profitability of the sector, a gap this study seeks to fill.

2.4 Conceptual Framework

The conceptual framework is based on the theoretical framework and empirical review. The conceptual framework diagrammatically shows the linkage between the dependent variable and independent variables. The identification of the variables is based on what other empirical studies have used. The conceptual framework links violent, non-violent and gender-based violence insecurity to matatu industry profitability. Violent insecurity is basically insecurity that is perpetrated through intentional use of physical force or power, threatened or actual, against passengers. On the other hand, non-violent insecurity is basically insecurity that is perpetrated without any form of intentional use of physical force or power,

threatened or actual, against passengers. Gender-based insecurity which is harmful acts directed at an individual based on their gender (Jolly and Deepayan, 2006). The conceptual framework is shown in figure 1.

FIGURE 2.1
Conceptual Framework



Source: Author (2021)

2.5 Operationalization of Variables

In research, operationalization of variables is the process by which concepts are linked to variables. This process involves identifying operations that will showcase values of a variable under study. The process therefore entails defining variables into measurable factors. Within the study, the operationalization of the study independent variables are; violent insecurity, non-violent insecurity, gender-based insecurity and the dependent variable is: profitability is discussed in this section.

2.5.1 Violent insecurity

Violence is an act of physical force that causes or is intended to cause harm. The damage inflicted by violence may be physical, psychological, or both. Violence may be distinguished from aggression, a more general type of hostile behavior that may be physical, verbal, or passive in nature. (Jacquin and Kristine 2021).

Violent insecurity is basically insecurity that is perpetrated through intentional use of physical force or power, threatened or actual. Violent insecurity therefore is majorly perpetrated through the use of force. It is notable that violent insecurity is also likely to result into physical injuries in cases where the victim portrays some form of resistance. Within the study, violent insecurity was conceptualized in the context of public transport. Therefore, the key forms of violent insecurity the study focused on are physical assault and matatu hijacking.

Physical assault. This is an independent variable of the study. It is a measure of the matatu sector insecurity incidence. In definition, this was defined by the occurrence of a physical assault in the matatus registered in a particular Sacco. A Geopoll survey in November (2016), revealed that 41% of the respondents experienced physical assault while on board a matatu. To estimate the effect of insecurity in matatu industry on matatu industry performance, two measures of this variable was applied. First is a qualitative and second a quantitative measure. The qualitative measure was whether a physical assault incidence has been reported to the Sacco. The second measure was a quantitative measure which captures the average number of physical assault incidences reported to the Sacco in a weekly basis.

Matatu hijacking. This is an independent variable of the study. It is a measure of the matatu sector insecurity incidence. In definition, this was defined by the occurrence of matatu hijacking in matatus registered in a particular Sacco

According to Securex (2018), This is a tactic that is predominant along Nairobi's Eastlands routes, where armed gangs would typically target vehicles operating late at night, boarding the matatu as passengers before drawing their weapons. They would then relieve one of their mobile phone and wallet before commandeering the matatu off course; dumping the passengers somewhere in the outskirts of the city.

To estimate the effect of insecurity on matatu industry profitability, two measures of this variable. were applied. First is a qualitative and second a quantitative measure. The qualitative measure was whether a matatu hijacking incidence has been reported to the Sacco. The second measure was a quantitative measure which captures the average number of matatu hijacking incidences reported to the Sacco in a weekly basis.

2.5.2 Non-violent insecurity

Non-violent insecurity is basically insecurity that is perpetrated without any form of intentional use of physical force or power, threatened or actual, against passengers. Non - violent insecurity therefore is majorly perpetrated swiftly without any form of force. It is notable that non - violent insecurity is not likely to result into any form of physical injuries.

Nonviolence is a strategic application of tactics to achieve goals. Individuals and campaigns that utilize nonviolence can be segmented into two groups: principled and pragmatic. The difference is in their goals and motivations. Tactical nonviolence, also known as pragmatic nonviolence, is utilitarian in nature. Its goal is to accomplish specific objectives and to defeat adversaries through nonviolent direct action. Its power concern is to gain “power *over* others” and is expressed in more adversarial terms. Gene Sharp, a leading advocate of tactical nonviolence, defines it as “a technique of socio-political action for applying power in a conflict without the use of violence.” Marquette University (2017).

Within the study, violent insecurity was conceptualized in the context of public transport. Therefore, the key forms of violent insecurity the study focused on are theft of passenger property and drugging of passengers in transit.

Theft. This is an independent variable of the study. It is a measure of the matatu sector insecurity incidence. In definition, this was defined by the occurrence of a theft incidences in the Sacco mainly pick pocketing, and loss of passenger property while in transit.

According to Securex (2018), Theft has been an age-old concern that has evolved over the years. Initially, one would only worry about the snatch-and-run, where thugs would target unsuspecting passengers in heavy traffic and grab their mobile phones or handbags through the windows. Thieves continue to come up with inventive means of robbing commuters blind, including working in groups to create a distraction before picking your pockets.

To estimate the effect of insecurity on matatu industry profitability, two measures of this variable were applied. First is a qualitative and second a quantitative measure. The qualitative measure was whether a theft incidence has been reported to the SACCO. The second measure was a quantitative measure which captured the average number of theft incidences reported to the SACCO in a weekly basis.

Drugging in matatu “We are also seeing the use of more unique methodologies. I believe a lot of people are now beginning to experiment with different types of chemicals, most of these are extremely hazardous to human health.” Deelano Kiilu (security expert speaking to K24 on 4th November, 2017).

Drugging is an independent variable of the study. It is a measure of matatu sector insecurity incidence. In definition, this was defined by the occurrence of a drugging incidence in matatus registered in a particular Sacco. To estimate the effect of insecurity in matatu

industry profitability on matatu industry performance, two measures of this variable were applied. First is a qualitative and second a quantitative measure. The qualitative measure was whether a drugging incidence has been reported to the Sacco. The second measure was a quantitative measure which captures the average number of drugging incidences reported to the Sacco in a weekly basis.

2.5.3 Gender-based violence

Gender-based insecurity is defined as harmful acts directed at an individual based on their gender. Therefore, gender-based violence refers to harmful acts directed at an individual based on their gender (Jolly and Deepayan, 2006). It is rooted in gender inequality, the abuse of power and harmful norms. Indeed, it is classified to be a serious violation of human rights and a life-threatening health and protection issue. Within the study, conceptualization of gender – based violence defined to entail physical assault of women, rape and any other form of sexual harassment.

Sexual violence and harassment. This is an independent variable of the study. It is a measure of the matatu sector insecurity incidence. In definition, this was defined by the occurrence of a sexual violence and harassment in the matatus registered in a particular Sacco. A Geopoll survey in November (2016), revealed that 47% of women were reported to have been harassed, verbally or physically, at least once.

To estimate the effect of insecurity on profitability of matatu industry performance, two measures qualitative and quantitative were applied. First is a qualitative and second a quantitative measure. The qualitative measure was whether a sexual violence and harassment incidence has been reported to the Sacco. The second measure was a quantitative measure

which captures the average number of sexual violence and harassment incidences reported to the Sacco in a weekly basis.

2.5.4 Profitability

This is the dependent variable of the study. It is the measure of the matatu sector financial performance. To estimate the effect of insecurity on matatu industry profitability, the study sought to determine whether the profitability has reduced with the incidences of insecurity being reported. Profitability is the ability of a business to earn a profit. A profit is what is left of the revenue a business generates after it pays all expenses directly related to the generation of the revenue, such as producing a product, and other expenses related to the conduct of the business activities.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter covers research methodology adopted by the study. More specifically, the chapter looks at the research design, the target population, sample and sampling procedures, research instruments, data collection instruments validity and reliability, data collection procedures and lastly the data processing and analysis.

3.2 Research Design

The study utilized a combination of research design to achieve the intended objectives. Research design is a framework for specifying relationships between the variables in the study and gives an outline of each procedure from the hypotheses to the analysis of data (Cooper & Schindler, 2014). In this study, a blend of quantitative research designs was employed. Specifically, the study adopted a descriptive research design. The choice of descriptive research design was informed by the fact that the study sought to explain in detail the effects of insecurity in the public transport sector performance. By this the study shed light into the level of insecurity in the public transport, how insecurity affects the sector thus informing the appropriate measures that ought to be put in place to curb the menace.

3.3 Target Population

The study targeted the registered Public Service Vehicles SACCOS operating in Nairobi city in Nairobi County. The targeted population in this case was 197 Public Service Vehicles SACCOS registered in Nairobi County (National Transport and Safety Authority, 2019). Therefore, the sampling frame for the study was 197 registered Public Service Vehicles SACCOS operating in Nairobi city in Nairobi County. The choice of the target population is informed by the fact that there are 197 registered Public Service Vehicles SACCOS operating

in Nairobi CBD. Even though the study is on Nairobi County, the vehicle has to operate from CBD given that the passengers main activities are in CBD. Therefore, virtually all the PSV vehicles registered to operate in Nairobi CBD serve Nairobi County at large. In addition, the choice of Nairobi County is informed by the fact that being the city, and the country's capital city, the public transport is more robust and serving a large number of commuters both living and working in the city as well as those visiting from other regions outside the city. In addition, the cases of insecurity in Nairobi are higher than any other region.

3.4 Sampling and Sampling Procedure

A sample is defined as a representative portion of the entire target population the researcher wishes to study. In selecting the sample, there is need to pay a lot of attention and be objective as much as possible so as to ensure that the sample is a good representation of the entire population (Cooper & Schindler, 2014). A sample that fully represents the population yields credible results which can be generalized for the entire study population. However, any sample that falls short of fully representing the entire population yields biased results which cannot be replicated for the entire population. Sampling technique on the other hand refers to the technique of the process used in selecting a sample out of the population for the study. Sampling techniques are generally classified into two: a probabilistic sampling technique where the probability of an element is chosen for the inclusion into the sample is scientifically determined and secondly the non – probabilistic techniques where the probability of an element is chosen for the inclusion into the sample is non - scientifically determined. This study adopted a census in its undertaking. This implies that the sample of the population was 197 respondents which is equivalent to the study population. The rationale for adopting a census is based on the following reasons. First is the small size of the target population. A census is warranted and feasible if the target population is small. Secondly if

the target population is heterogenous, adoption of the census is appropriate as opposed to sampling (Cooper & Schindler, 2014). When the target population is heterogenous in nature then it is recommended that the researcher undertake a census as opposed to sampling. This ensures that the researcher can collect data on all the dynamic aspects of the study unit of analysis.

3.5 Research Instrument

The study relied on the primary data. This data was generally cross - sectional data. This is because the data was collected in a point in time. Therefore, the study used research instrument deemed appropriate for collection of primary data. More specifically, the study used questionnaires for data collection. Mainly, structured questionnaires were used. Questionnaires included both open-ended and closed-ended questions. The questionnaires were self-administered to the sample respondents. Closed - ended questions were used to solicit qualitative data while open-ended questions obtained quantitative data for statistical analysis. The questionnaires were administered to the sampled respondents face – to – face to allow probing for unclear responses as well as seeking for more information from the respondents.

3.6 Validity and Reliability of the Instrument

Validity of research instrument is defined as the extent to which a test or instrument measures what it is intended or supposed to measure (Mbwesa, 2006). This Study adopted content validity. Here there is agreement that a scale logically appears to reflect accurately what it purports to measure. This ensures that the instrument is covering what it is intended to cover (Mbwesa 2006). To improve validity, the researcher translated the interview schedule from English into Kiswahili and/or the local language where necessary to ensure that the respondent fully understood the questions at hand. In addition, to ensure research instrument

validity, data collection tool was pilot - tested to determine whether the questions are clearly understood by the sampled respondents. Any areas needing correction and clarification about questionnaires were corrected after the pilot study but prior to the actual field work.

Research tool reliability is the level to which a research instrument is consistent in measuring the same attribute upon repeated trials (Mugenda and Mugenda, 2003). To measure the reliability of the data collection tool, Cronbach's alpha was computed. Since Cronbach's alpha for the tool was found to be above 0.7, the tool was concluded to be reliable for the data collection.

Prior to conducting inferential statistical analysis mainly regression model and hypothesis testing thereof, validity and reliability tests for data collection tool was conducted. This entailed computation of Cronbach's alpha. The results of the test are presented in table 1. from the results, the concentration is on the test scale for the average interitem correlation and the Alpha. The test scale for average interitem correlation and the Alpha are 0.7368 and 0.9648 respectively. These test scales are above the threshold of 0.7 implying that the data collection tool was valid and reliable. This means that the tool was consistent in collecting the intended data across all the respondents interviewed. With these findings, there was assurance that the data collected was fit for conducting inferential statistical analysis.

TABLE 3.1**Validity and Reliability Tests Results - Cronbach's Alpha**

Item	Obs	Sign	item-test correlation	item-rest correlation	Average interitem correlation	Alpha
s3p1q1	182	+	0.6512	0.5873	0.7661	0.9759
s3p1q2	182	+	0.7277	0.6786	0.7223	0.9590
s3p1q3	182	+	0.6821	0.6378	0.7452	0.9659
s3p2q1	182	+	0.6595	0.5960	0.7589	0.9735
s3p2q2	182	+	0.5418	0.4790	0.8330	0.9972
s3p2q3	182	+	0.8276	0.7885	0.6664	0.9380
s4p1q1	182	+	0.6803	0.6280	0.7476	0.9679
s4p1q2	182	+	0.5698	0.5420	0.8007	0.9819
s4p1q3	182	+	0.6688	0.6239	0.7493	0.9674
s4p1q4	182	+	0.6565	0.6169	0.7592	0.9699
s4p2q1	182	+	0.6574	0.6014	0.7675	0.9752
s4p2q2	182	+	0.5800	0.5317	0.8026	0.9853
s4p2q3	182	+	0.8522	0.7971	0.6407	0.9311
s4p2q4	182	+	0.6601	0.5827	0.7676	0.9788
s5q1	182	+	0.7106	0.6184	0.7368	0.9715
s5q2	182	+	0.6831	0.6227	0.7528	0.9709
s5q3	182	+	0.8688	0.8058	0.6304	0.9288
s6q1	182	+	0.8135	0.7623	0.6708	0.9414
s6q2	182	+	0.8602	0.7920	0.6335	0.9308
s6q3	182	+	0.6337	0.5468	0.7857	0.9865
Test scale					0.7368	0.9648

Source: Author, (2021)

3.7 Data Collection Procedure

To achieve the objectives of the study, credible data is core to necessitate analysis. To collect the data for the study, structured questionnaires were administered to the selected Public Service Vehicles SACCOS. Questionnaires were administered by the researcher to respondents. This implies that the interviewer interviewed the interviewees and recorded all answers to the questions. This enabled the interviewer to seek for clarifications through probing for the unclear responses as opposed to drop and pick method. It gave an opportunity for seeking clarifications from the respondents. Lastly, by the researcher administering

questionnaires to respondents, this increased the response rate to questionnaires. Questionnaires were administered to the management of SACCOS. As such anybody within the management of the SACCO qualified to answer the questions. The study avoided interviewing passengers since there is no definite population for passengers hence making it difficult for sampling.

3.8 Data Processing and Analysis

The quantitative data collected during the field study was checked, edited, organized and computer coded to reduce the mass of data obtained into a form suitable for analysis. This was then analyzed using Statistical Package for Social Sciences (SPSS) version 20. The qualitative data received from the responses was coded and converted to quantitative data for analysis. From the coded data, analysis was conducted to generate frequency tables, graphs and charts in accordance with the questions in the tool. To determine the effect of insecurity in the matatu industry performance, regression model analysis was done. Specifically, an Ordinary Least Square (OLS) regression model was applied. The general representation of the model is given as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + +\beta_3 X_3 + \dots \dots \dots \epsilon \quad (3.1)$$

Where: Y is the dependent variable, X(s) are the independent variables, α is the constant term of the model, β (s) are the parameters of the model and ϵ is the model error term. X_1 Violent insecurity, X_2 is non - violent insecurity, X_3 is Gender based insecurity.

The specific econometric model for the study was defined as follows:

$$profit = \alpha + \beta_1 violent\ insecurity + \beta_2 non\ violent\ insecurity + \beta_3 gender\ based\ insecurity + \dots \dots \dots \epsilon \quad (3.2)$$

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter focuses on the analysis and interpretation of the data that was collected. Specifically, the chapter covers descriptive statistics. This entails the field study response rate from the respondents, demographic statistics of the respondents, data analysis by study variables, diagnostic tests and model fitting. Finally, the study covers the discussion of the findings.

4.2 Descriptive Statistics Response Rate

The study target sample was 197 registered public service vehicles SACCOs operating in Nairobi CBD. Upon the actual data collection, responses from 182 public service vehicles SACCOS were received. This translated to a response rate of 92.39 percent thus qualifying going on with the data analysis process.

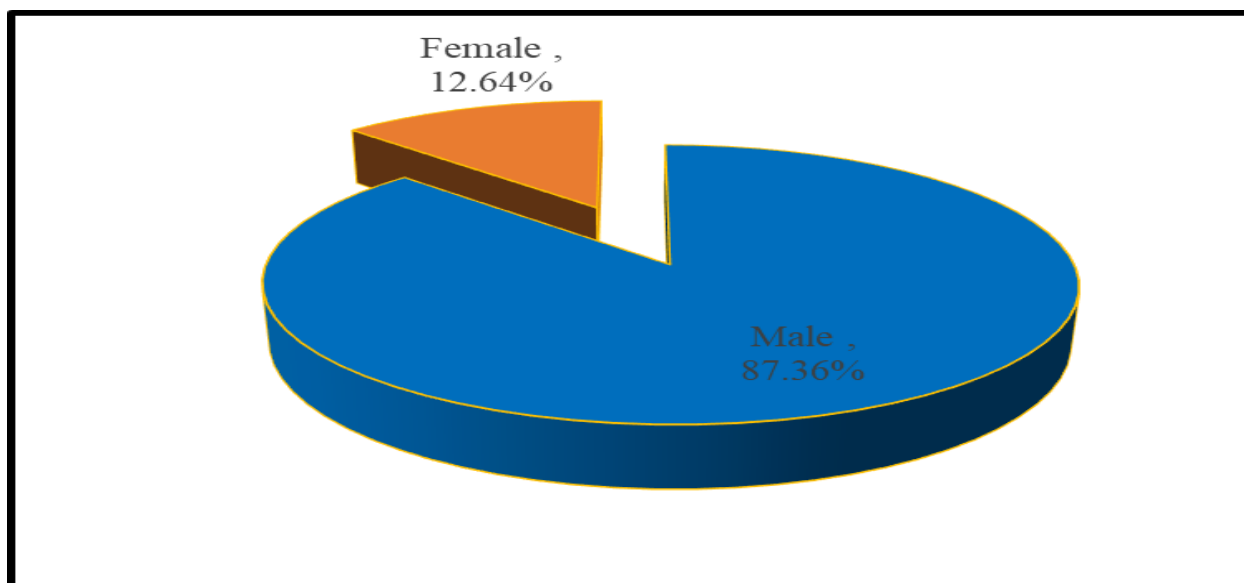
4.3 Demographic Information

In the study some of the key demographic information sought on the respondent were gender, SACCO of operation, years of operation in the current SACCO, the route the SACCO operates along and position held in the current SACCO of operation. The results of these demographic attributes are presented as follows:

4.3.1 Respondents by gender

The study sought to find out the distribution of the labour force among matatu SACCOS by gender. This is because involvement of the women in the industry is likely to be a deterrent towards violence perpetration especially for gender – based violence whereby women are likely to be whistle-blowers compared to men as shown in figure 2.

FIGURE 4.1
Response by Gender



Source: Author, (2021)

From figure 4.1, out of the 182 respondents, male respondents were the majority accounting for 87.36 percent of the total respondent with the female respondents accounting for 12.64 percent. This indicates that the matatu industry in Nairobi is male dominated in terms of labour force. This implies that security issues affecting women in the industry are less likely to be addressed. In addition, the results point to the fact that the perpetrators of the insecurities incidences in the industry are more likely to be males at large.

4.3.2 Respondents by SACCO route of operation

The study sought to find out the distribution of the SACCOS operating in Nairobi by their registered route of operation. This is because some routes are likely to have more SACCOS registered given the passenger traffic served by the routes. Further, is the realization the SACCOS are likely to have their matatus operating in more than one route. As shown in table

4.1

TABLE 4.1**Response by SACCO Route of Operation**

Route of operation	Frequency	Percentage	Cumulative
Limuru road	14	7.69	7.69
Mombasa road	38	20.88	28.57
Ngong road	33	18.13	46.7
Waiyaki Way	21	11.55	58.24
Outering/Jogoo road	29	15.93	74.18
Thika road	47	25.82	100
Total	182	100	

Source: Author, (2021)

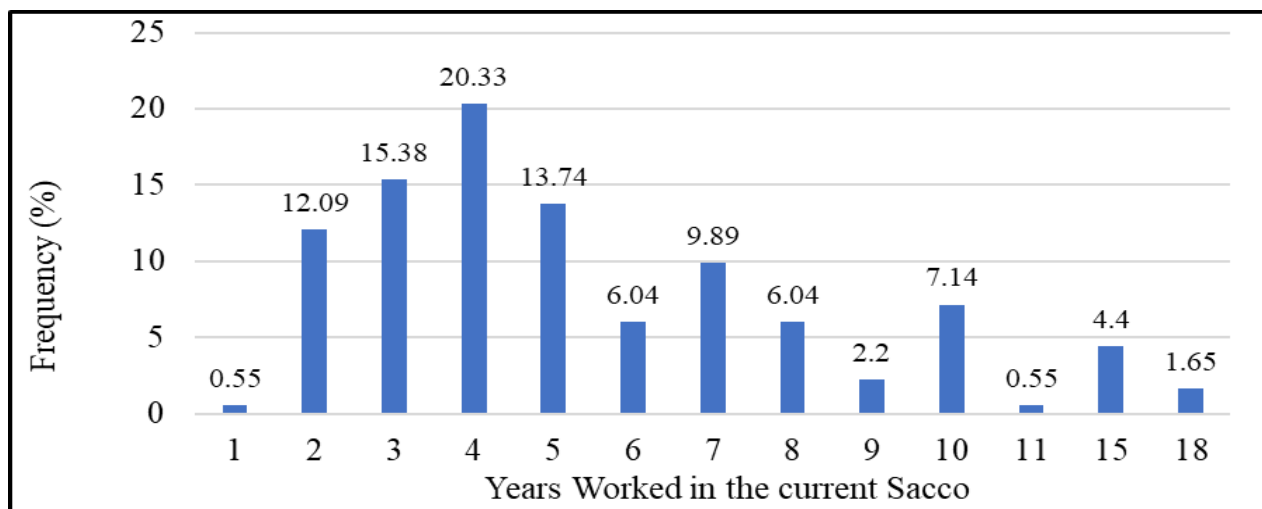
From table 4.2, out of 182 SACCOS, operating within the major routes linking the Nairobi CBD Thika Road accounted for 25.82 percent of the total respondents. This is closely followed by Mombasa 20.88, Ngong road route at 18.13 percent. Outering / jogoo road 15.93, Waiyaki way 11.55 and Limuru road accounted for 7.69 percent of total respondents. These findings indicate that the routes covered are the major highways linking Nairobi CBD to the rest of Nairobi metropolitan and the neighbouring counties at large where majority of the passengers working or coming to Nairobi CBD reside. This implies that these are the routes that are more likely to have insecurity incidences within Nairobi County given their linkage to Nairobi Central Business District.

4.3.3 Respondents by years worked at the current matatu SACCO

Further, the study sought to examine the number of the years the respondent has worked at the current matatu SACCO of operation. The number of years the respondent has worked in the organization is crucial in determining the authenticity of the responses given by the respondent. By intuition, the responses given by a long-term serving employee are likely to be more reliable compared to responses by new employees. As shown in Figure 3

FIGURE 4.2

Response by Years Worked at the Current Matatu SACCO



Source: Author, (2021)

From figure 4.2, the findings indicate that the respondent with the highest years of operation is 18 years with the respondent having the least years of operation at the current Matatu SACCO being 1 year (Figure 3). Further, the results indicates that majority of the respondents had 4 years of operation at their current matatu SACCO with a frequency of 20.3 percent. Respondents with 1 year and 11 years of operation had the least frequency at 0.55 percent. This indicates that the response given by the responses are more liable given that a reasonable number of respondents have worked in the respective SACCOS for a reasonable number of years.

4.3.4 Response by position held at the current matatu SACCO

Further, the study sought to examine the position held by the respondent in the current Matatu SACCO of operation. The position of the respondent is crucial in determining the authenticity of the responses given by the respondent. By intuition, the responses given senior employees are likely to be more reliable compared to responses by low rank employees.

TABLE 4.2**Response by Current Office Holding**

Position	Frequency	Percentage	Cumulative
Sacco logistics officer	11	6.04	6.04
Sacco dispatch officer	33	18.13	24.18
Sacco office administrator	42	23.08	47.25
Sacco office clerk	25	13.74	60.99
Sacco ticket processing officer	71	39.01	100
Total	182	100	

Source: Author, (2021)

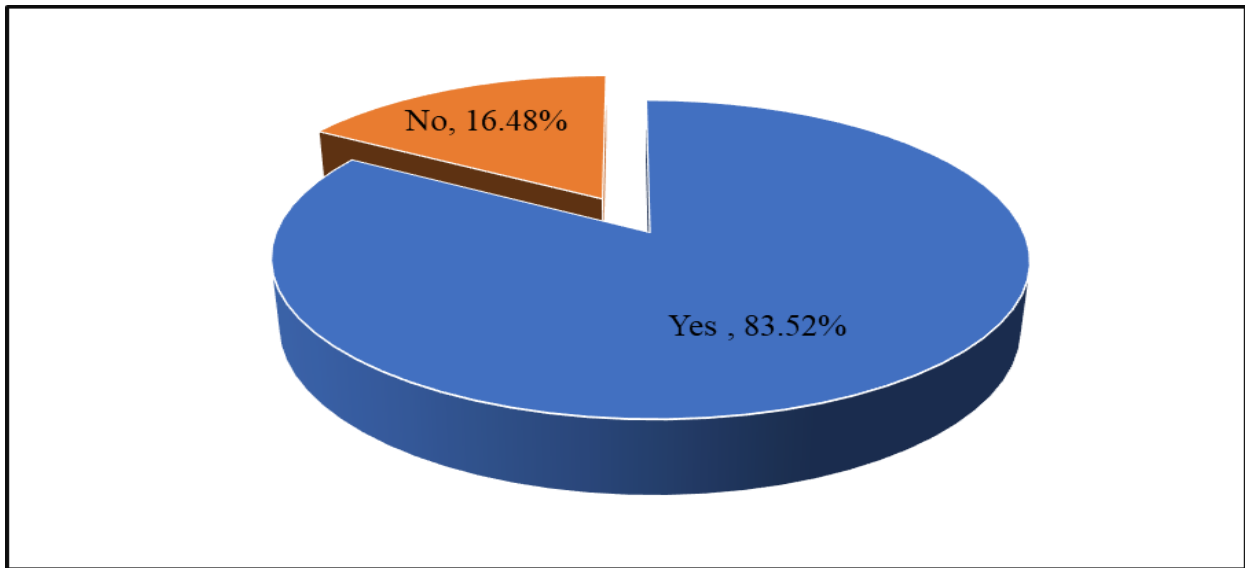
From table 4.3, out of 182 respondents the results reveal that majority of the respondents were SACCO ticket processing officers accounting for 39.01 percent of the total respondents. SACCO office administrators 23.08, SACCO dispatch officers 18.13 percent, SACCO office clerks 13.74 percent and SACCO logistics officers accounted for 6.04 percent. The results imply that since these are the staff who are involved in the day – to – day operations of the SACCO offices, they possess information regarding the insecurity issues reported at the SACCO offices or evening insecurity issues reported by the victims to the law enforcement agencies that involved their SACCOS.

4.3.5 Awareness on the violent insecurity in public sector transport in your SACCO

An examination of the level of awareness of the insecurity incidences in the matatu industry was conducted among the matatu operators across the registered SACCOS. Awareness of the insecurity incidences among the SACCO workers was crucial to infer into policy recommendations of the study regarding possible measures to curb the insecurity in the matatu industry.

FIGURE 4.3

Awareness on the Violent Insecurity in Public Sector Transport in Your SACCO



Source: Author, (2021)

From figure 4.3, the results indicate that 83.52 percent of total respondents are aware of the existence of the violent insecurity in the matatu industry and specifically reports of the same having been witnessed in their current SACCO of operation. However, 16.48 percent of the respondents indicated that they are not aware of violent insecurity in public sector transport. This shows that a reasonable proportion of SACCOS are aware of possible violent insecurity facing matatu industry and therefore would be helpful in initiatives such as sensitizations programs towards curbing the menace in the industry. In addition, the results point out to the need for educational programs to the staff and SACCOS who are unaware of the violent insecurity in public sector transport to equip them with then knowledge.

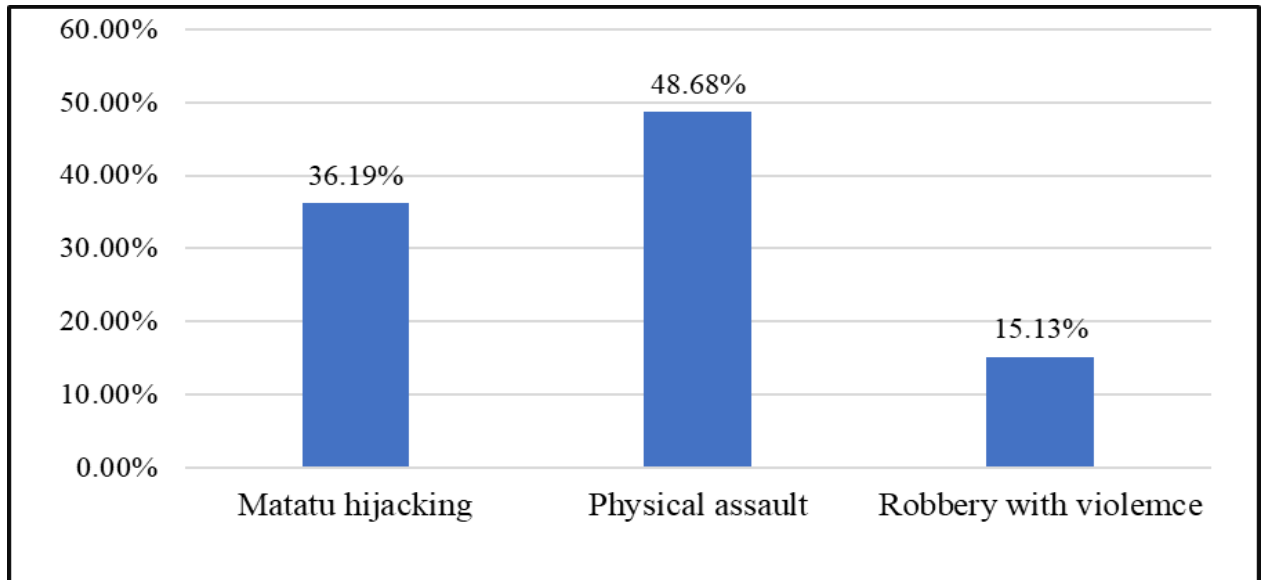
4.3.6 Types of violent insecurity in public sector transport

An examination of the types of violent insecurity incidences in the matatu industry was conducted among the matatu operators across the registered SACCOS. Knowledge on the types of violent insecurities among the SACCO workers was crucial in inferring into most

commonly perpetrated violent insecurities which was further crucial in inferring to policy recommendations of the study with regard to possible measures to curb the insecurity in the matatu industry.

FIGURE 4.4

Types of Violent Insecurity in Public Sector Transport



Source: Author, (2021)

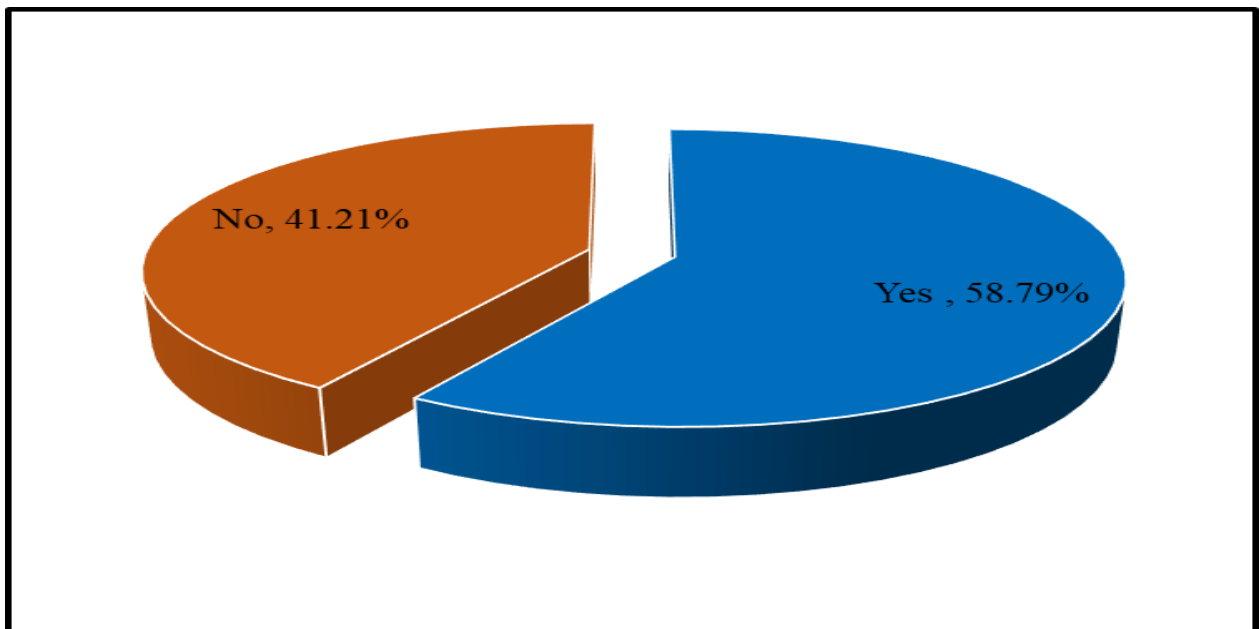
From figure 4.4, results reveal that 48.68 percent of total respondents cited that they are aware of physical assault, 36.19 percent cited being aware of matatu hijacking and 15.23 cited being aware of robbery with violence. This shows that a reasonable proportion of SACCOS are aware of possible violent insecurity incidences reported to have happened in their SACCO. This would be helpful in initiatives such as sensitizations programs towards curbing the menace in the industry. In addition, the results point out to the need for educational programs to the staff and SACCOS who are unaware of the violent insecurity in their respective SACCOS to equip them with the knowledge.

4.3.7 Awareness on the non - violent insecurity in public sector transport in your SACCO

An examination of the level of awareness of the non - violent insecurity incidences in the matatu industry was conducted among the matatu operators across the registered SACCOS. Awareness of the non – violent insecurity incidences among the SACCO workers was crucial to infer into policy recommendations of the study regarding possible measures to curb the insecurity in the matatu industry.

FIGURE 4.5

Awareness on the non - Violent Insecurity in Public Sector Transport in Your SACCO



Source: Author, (2021)

From figure 4.5, results indicate that 58.79 percent of total respondents are aware of the existence of the non-violent insecurity in the matatu industry and specifically reports of the same having been witnessed in their current SACCO of operation. However, a sizeable 41.21 percent of the respondents indicated that they are not aware of any form of non - violent insecurity in public sector transport. This shows that a reasonable proportion of SACCOS are aware of possible non- violent insecurity facing matatu industry and therefore would be

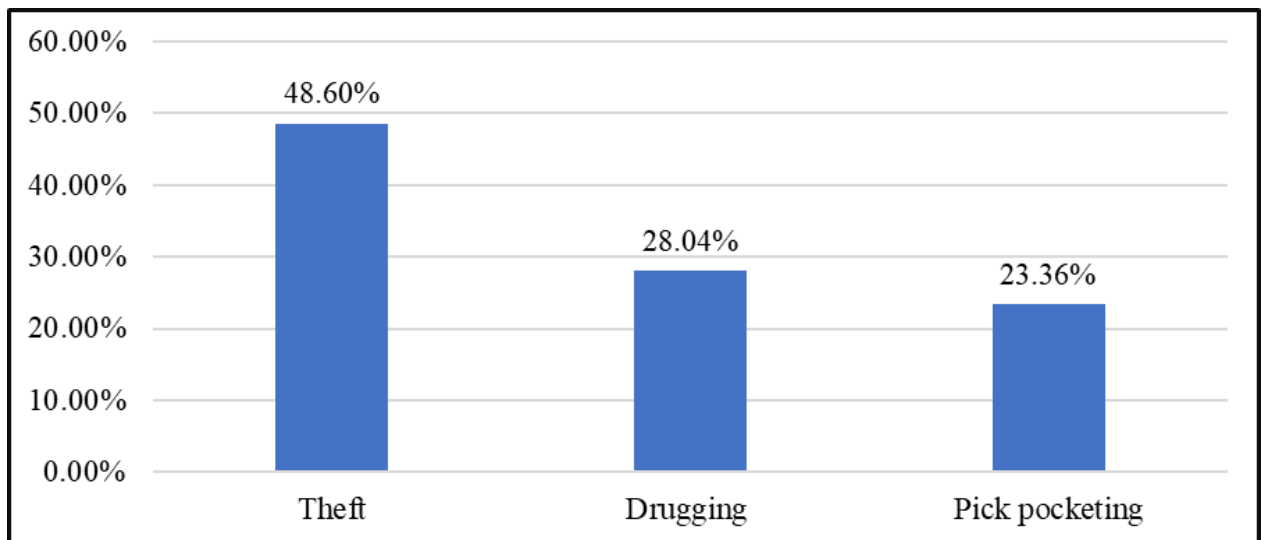
helpful in initiatives such as sensitizations programs towards curbing the menace in the industry. In addition, the results point out to the need for educational programs to the staff and SACCOS who are unaware of the non - violent insecurity in public sector transport to equip them with the knowledge.

4.3.8 Types of non - violent insecurity in public sector transport in your SACCO

An examination of the types of non - violent insecurity incidences in the matatu industry was conducted among the matatu operators across the registered SACCOS. Knowledge on the types of violent insecurities among the SACCO workers was crucial in inferring into most perpetrated non - violent insecurities which was further crucial in inferring to policy recommendations of the study with regard to possible measures to curb the insecurity in the matatu industry.

FIGURE 4.6

Types of non - Violent Insecurity in Public Sector Transport in Your SACCO



Source: Author, (2021)

From figure 4.6 regarding the type of the non - violent insecurity in public sector transport, the respondents are aware that 48.60 percent of total respondents cited that they are aware of

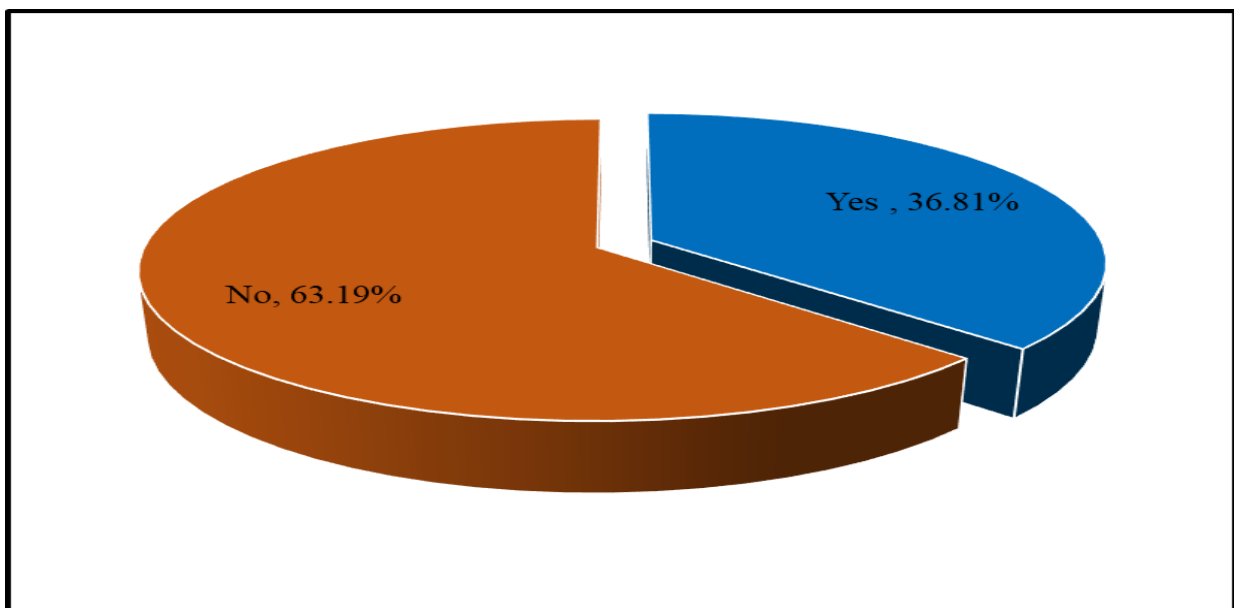
theft in matatu, 28.04 percent were aware of drugging cases in matatu industry and 23.36 percent were aware of pick pocketing. This shows that a reasonable proportion of SACCOS are aware of possible non - violent insecurity incidences reported to have happened in their SACCO. This would be helpful in initiatives such as sensitizations programs towards curbing the menace in the industry. In addition, the results point out to the need for training programs to the staff and SACCOS who are unaware of the non - violent insecurity in their respective SACCOS to equip them with the knowledge.

4.3.9 Awareness gender-based insecurity in public sector transport in your SACCO

An examination of the level of awareness of the gender - based insecurity incidences in the matatu industry was conducted among the matatu operators across the registered SACCOS. Awareness of the gender – based insecurity incidences among the SACCO workers was crucial to infer into policy recommendations of the study regarding possible measures to curb the insecurity in the matatu industry.

FIGURE 4.7

Awareness Gender-Based Insecurity in Public Sector Transport in Your SACCO



Source: Author, (2021)

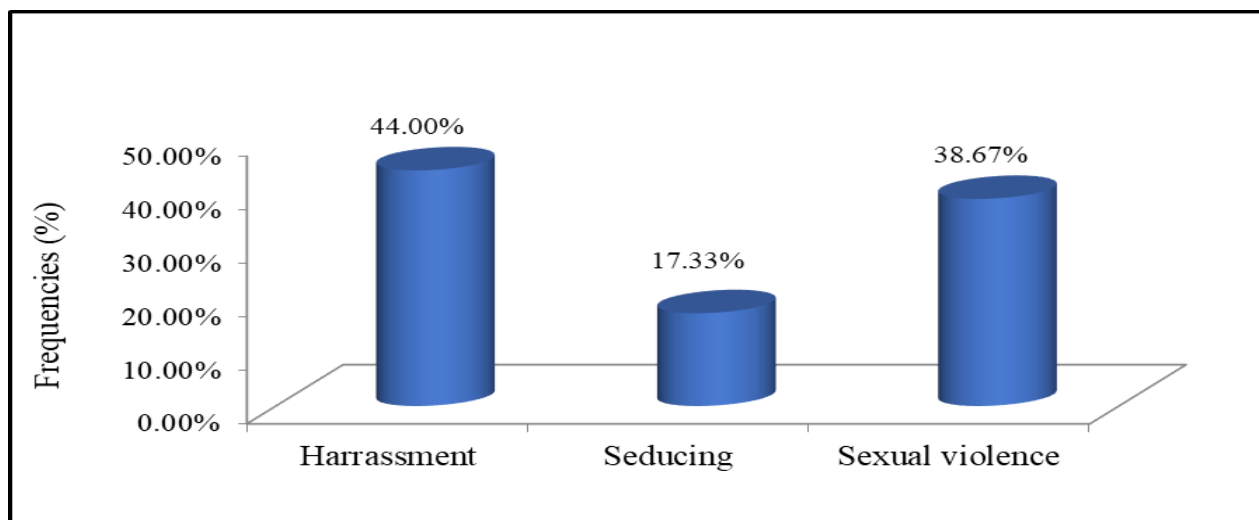
From figure 4.7, awareness of gender- based insecurity in public sector transport, found that 63.19 percent of total respondents are aware of the existence of the gender- based insecurity in the matatu industry and specifically reports of the same having been witnessed in their current SACCO of operation. However, 36.81 percent of the respondents indicated that they are unaware of any form of gender- based insecurity in public sector transport. This shows that more than half of SACCOS are not aware of gender – based insecurity facing matatu industry and therefore would be helpful in initiatives such as sensitizations programs towards curbing the menace in the industry. In addition, the results point out to the need for educational programs to the staff and SACCOS who are unaware of the of gender – based insecurity in public sector transport to equip them with the knowledge.

4.3.10 Types of gender - based insecurity in public sector transport in your SACCO

An examination of the types of gender - based insecurity incidences in the matatu industry was conducted among the matatu operators across the registered SACCOS. Knowledge on the types of violent insecurities among the SACCO workers was crucial in inferring into most perpetrated gender - based insecurities which was further crucial in inferring to policy recommendations of the study with regard to possible measures to curb the insecurity in the matatu industry.

FIGURE 4.8

Types of Gender - Based Insecurity in Public Sector Transport in Your SACCO



Source: Author, (2021)

From figure 4.8 on the type of the gender - based insecurity in public sector transport the respondents are aware of, a majority of 44.0 percent of total respondents were aware of harassment especially on female passengers, 38.67 percent were aware of cases of sexual violence still especially directed towards female passengers. 17.67 percent were aware of sexual seducing cases in the matatu industry in Nairobi. This shows that more than half of SACCOS are not aware of the gender - based incidences reported to have happened in their SACCO. This would be helpful in initiatives such as sensitizations programs towards curbing the menace in the industry. In addition, the results point out to the need for educational programs to the staff and SACCOS who are unaware of gender – based insecurity in their respective SACCOS to equip them with the knowledge.

4.4 Study Variables

The section presents the findings of the study variables. In this case, the section gives the descriptive analysis results of the variables regarding responses. Most importantly, are the

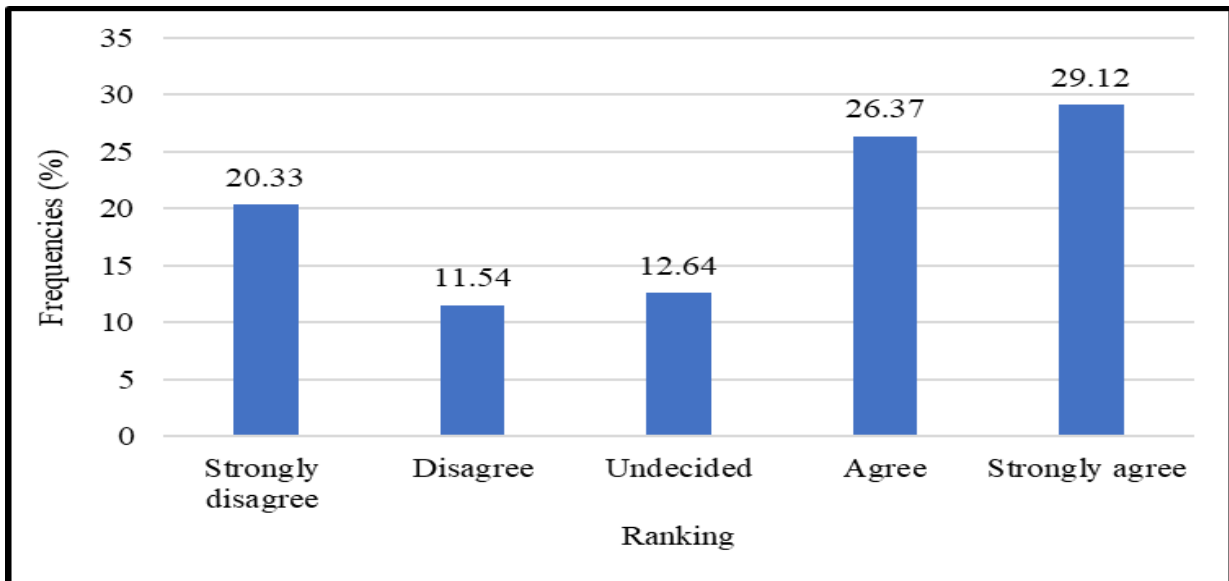
findings of the subcomponents of the study variables. For every study variable, the section presents the findings of the different attributes of the variables. Therefore, responses on the effect of violent, non – violent and gender – based violence on matatu industry in Nairobi County are presented based on operationalization attributes. For the effect of violent insecurity, results on responses for the effect of physical assaults and matatu hijackings are presented in line with the questions as presented in the study questionnaire. For the effect of non-violent insecurity, results on responses for the effect of theft and matatu drugging are presented in line with the questions as presented in the study questionnaire. Lastly, for the effect of gender – based insecurity results on responses for the effect of sexual violence and harassment are presented in line with the questions as presented in the study questionnaire.

4.4.1 Passenger physical assault in public transport

Prior to running the regression model, the study examined ranking of effect of various forms of insecurity on matatu industry in Nairobi County. An inquiry into ranking on the physical assault directed to passengers was crucial in determining the level of reporting by the passengers on physical assault cases to the SACCO. Further, the ranking on the various aspects of the physical assault would have given an indication into the possible effects physical assault is likely to have on matatu industry profitability even prior to fitting the regression model.

FIGURE 4.9

Passenger Physical Assault in Public Transport has Been Rampant in Your SACCO

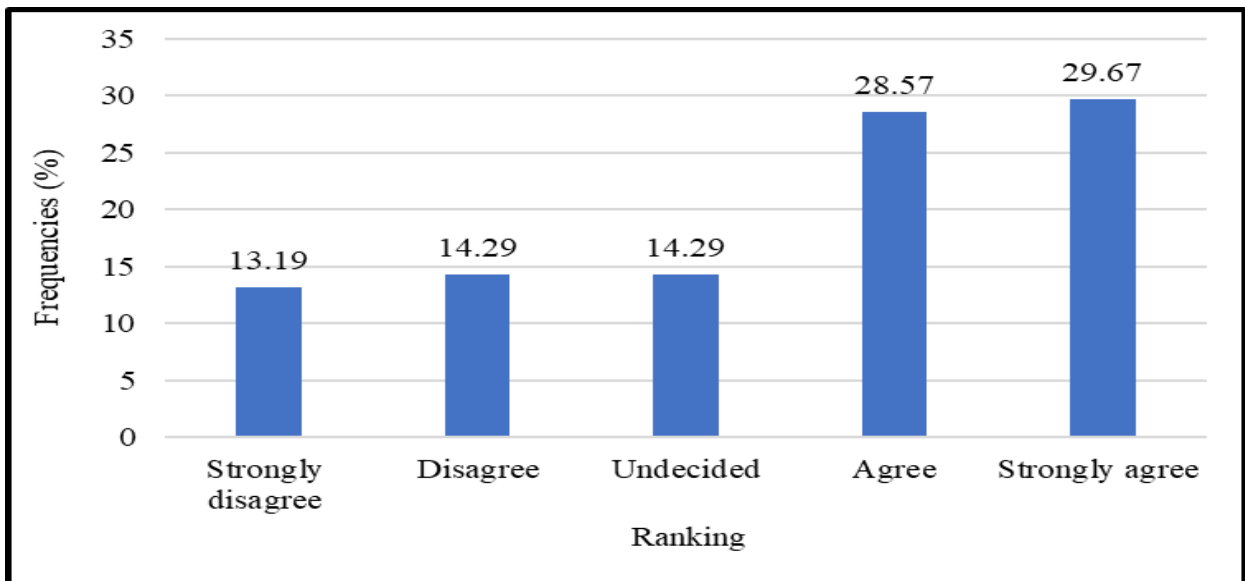


Source: Author, (2021)

From figure 4.19, results reveal that 29.12 percent of the respondents strongly agree that physical assault of passengers in the public transport is rampant among the matatu SACCOS in Nairobi County. Further, 26.37 percent of the respondents were in agreement with this finding. However, 12.64 percent of the respondents were indifferent / undecided as to whether physical assault of passengers in the public transport is rampant among the matatu SACCOS in Nairobi County or not. On the other hand, 11.54 percent of the respondents disagrees and 20.33 strongly disagrees that physical assault of passengers in the public transport is rampant among the matatu SACCOS in Nairobi County. The results therefore to a large extent concur that physical assault has been rampant in the matatu industry within Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.10

Passenger Physical Assault has led to Negative Publicity of Your SACCO Among the Passengers

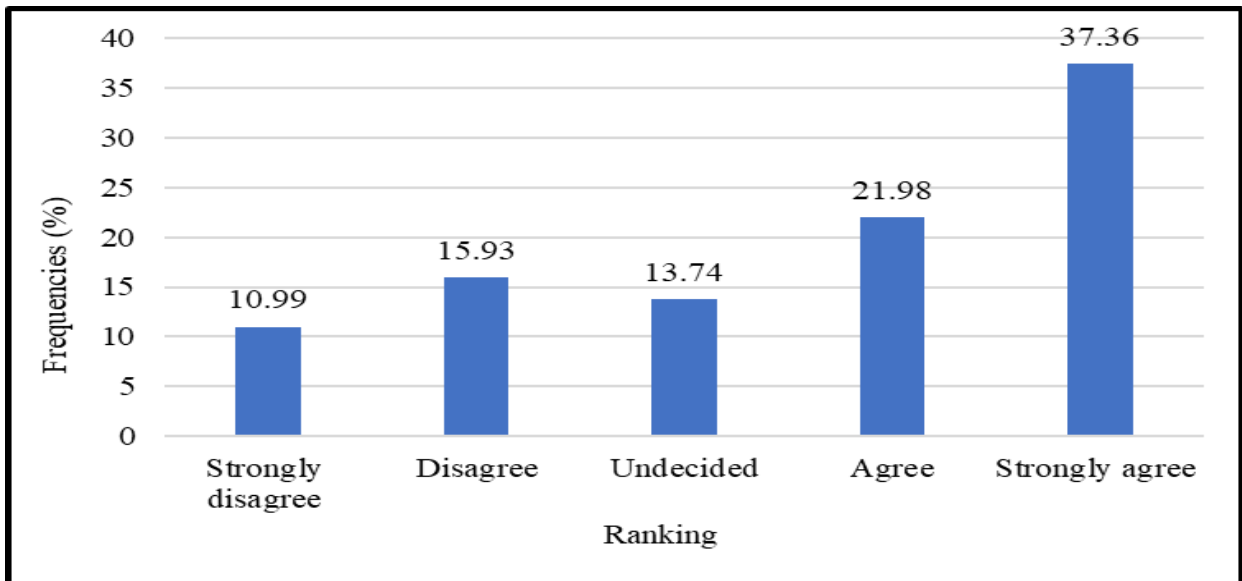


Source: Author, (2021)

From figure 4.10, results reveal that 29.67 percent of the respondents strongly agree that physical assault of passengers in the public transport has led to negative publicity of the SACCO among the passengers. Further, 28.57 percent of the respondents were in agreement with this finding. However, 14.29 percent of the respondents were indifferent / undecided as to whether physical assault of passengers in the public transport has led to negative publicity of the SACCO among the passengers in Nairobi County or not. On the other hand, 14.29 percent and 13.19 percent of the respondents disagree and strongly disagree respectively that physical assault of passengers in the public transport has led to negative publicity of the SACCO among the passengers in Nairobi County. The results therefore to a large extent concur that physical assault has had a negative effect on the image and reputation of the matatu industry in Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.11

Passenger Physical Assault has led to Loss of Business to Your Competitor SACCO



Source: Author, (2021)

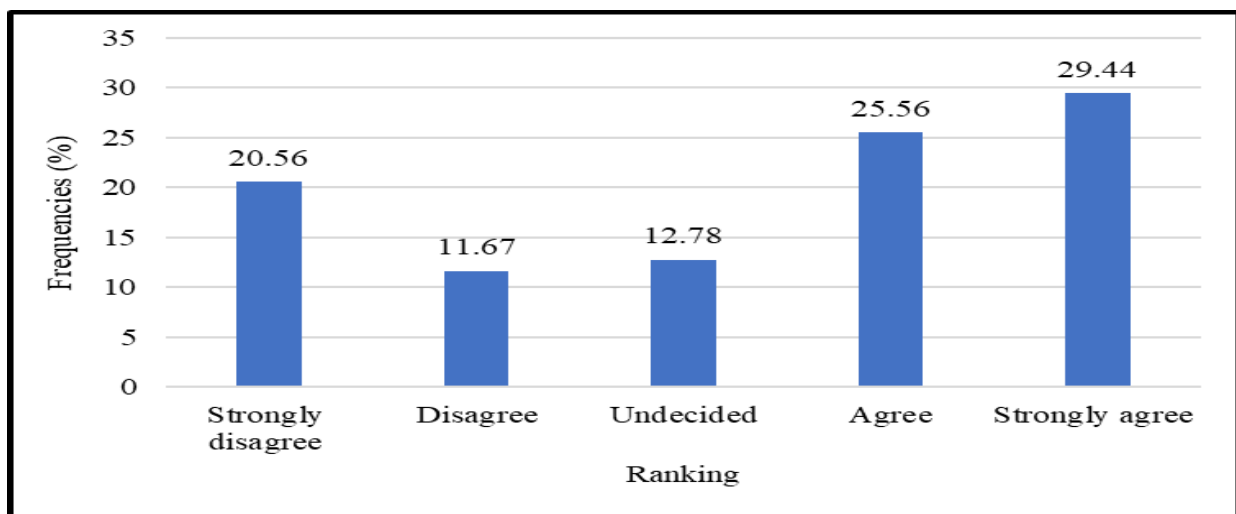
From figure 4.11, results reveal that 37.36 percent of the respondents strongly agree that physical assault of passengers has led to loss of business to competitor SACCO. Further, 21.98 percent of the respondents were in agreement with this finding. However, 13.74 percent of the respondents were indifferent / undecided as to whether that physical assault of passengers has led to loss of business to competitor SACCO in Nairobi County or not. On the other hand, 15.93 percent and 10.99 percent of the respondents disagrees and strongly disagree respectively that physical assault of passengers has led to loss of business to competitor SACCO in Nairobi County. The results therefore to a large extent concur that physical assault has adversely affected matatu SACCOS in Nairobi with the most affected SACCOS losing their business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

4.4.2 Matatu hijacking in public transport

An inquiry into ranking on the matatu hijacking cases was crucial in determining the level of reporting of the cases to the SACCO. Further, the ranking on the various aspects of the matatu hijacking would have given an indication into the possible effects physical assault is likely to have on matatu industry profitability even prior to fitting the regression model.

FIGURE 4.12

Matatu Hijacking in Public Transport has Been Rampant in Your SACCO



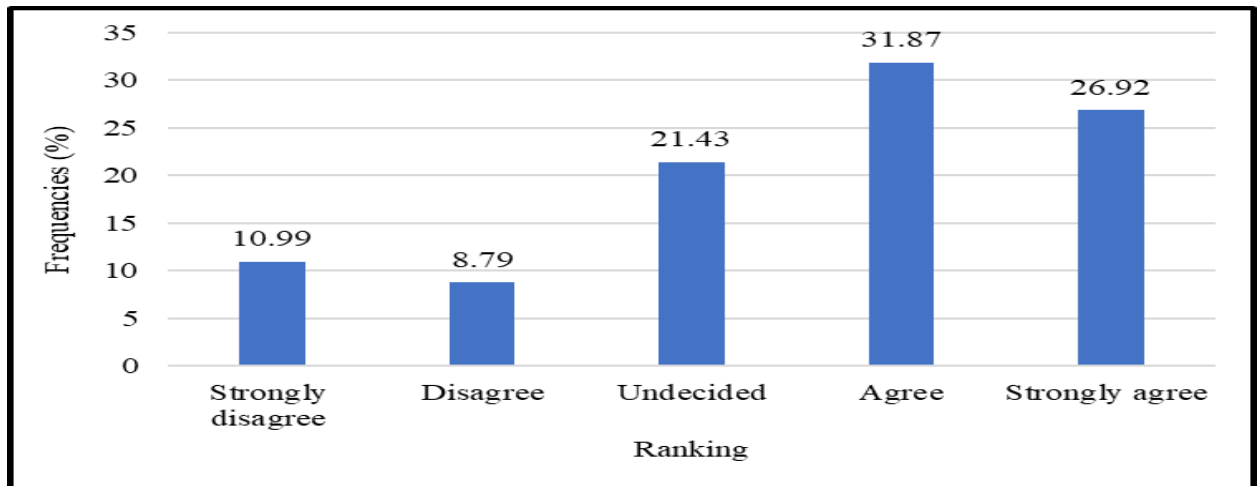
Source: Author, (2021)

From figure 4.12, results reveal that 29.44 percent of the respondents strongly agree that matatu hijacking has been rampant in their SACCO. Further, 25.56 percent of the respondents were in agreement with this finding. However, 12.78 percent of the respondents were indifferent / undecided as to whether that matatu hijacking has been rampant in their SACCO in Nairobi County or not. On the other hand, 11.67 percent and 20.56 percent of the respondents disagrees and strongly disagree respectively that matatu hijacking has been rampant in their SACCO in Nairobi County. The results therefore to a large extent concur

that matatu hijacking is rampant among matatus in Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.13

Matatu hijacking has led to negative publicity of our SACCO among the passengers

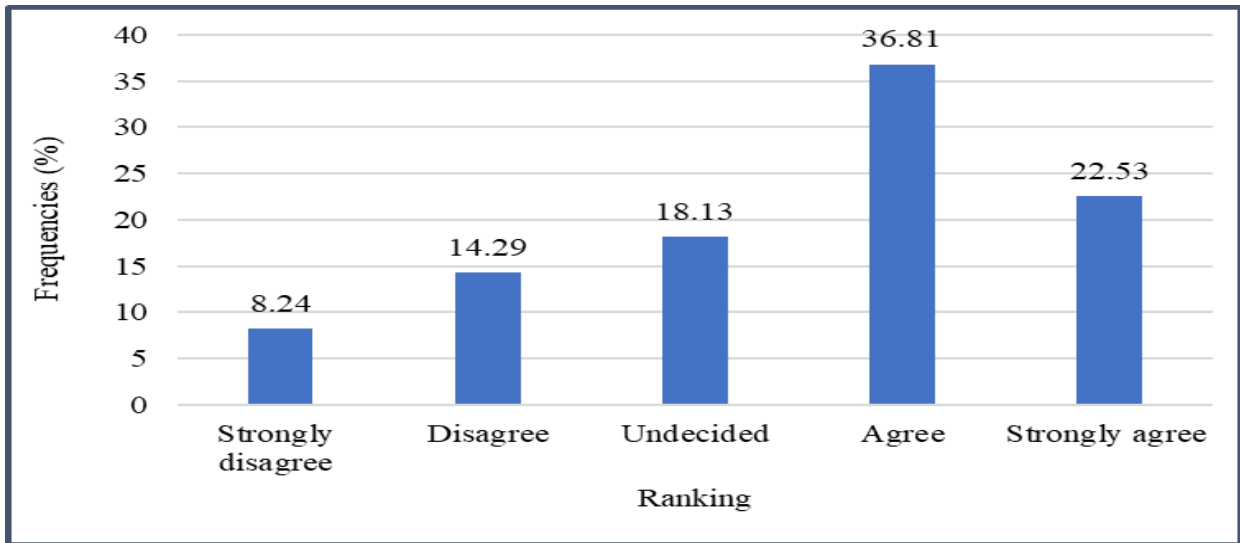


Source: Author, (2021)

From figure 4.13, results reveal that 26.92 percent of the respondents strongly agree that matatu hijacking has led to negative publicity of their SACCO among the passengers. Further, 31.87 percent of the respondents were in agreement with this finding. However, 21.43 percent of the respondents were indifferent / undecided as to whether that matatu hijacking has led to negative publicity of their SACCO among the passengers in Nairobi County or not. On the other hand, 8.79 percent and 10.99 percent of the respondents disagrees and strongly disagree respectively that matatu hijacking has led to negative publicity of their SACCO among the passengers in Nairobi County. The results therefore to a large extent concur that matatu hijacking has adversely affected the image and reputation of the affected SACCOS. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.14

Matatu Hijacking has led to Loss of Business to our Competitor SACCO



Source: Author, (2021)

From figure 4.14, results reveal that 22.53 percent of the respondents strongly agree that matatu hijacking has led to loss of business to their competitors. Further, 36.81 percent of the respondents were in agreement with this finding. However, 18.13 percent of the respondents were indifferent / undecided as to whether that matatu hijacking has led to loss of business to their competitors or not. On the other hand, 14.29 percent and 8.24 percent of the respondents disagrees and strongly disagree respectively that matatu hijacking has led to loss of business to their competitors in Nairobi County. The results therefore to a large extent concur that matatu hijacking has adversely affected matatu SACCOS in Nairobi with the most affected SACCOS losing their business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

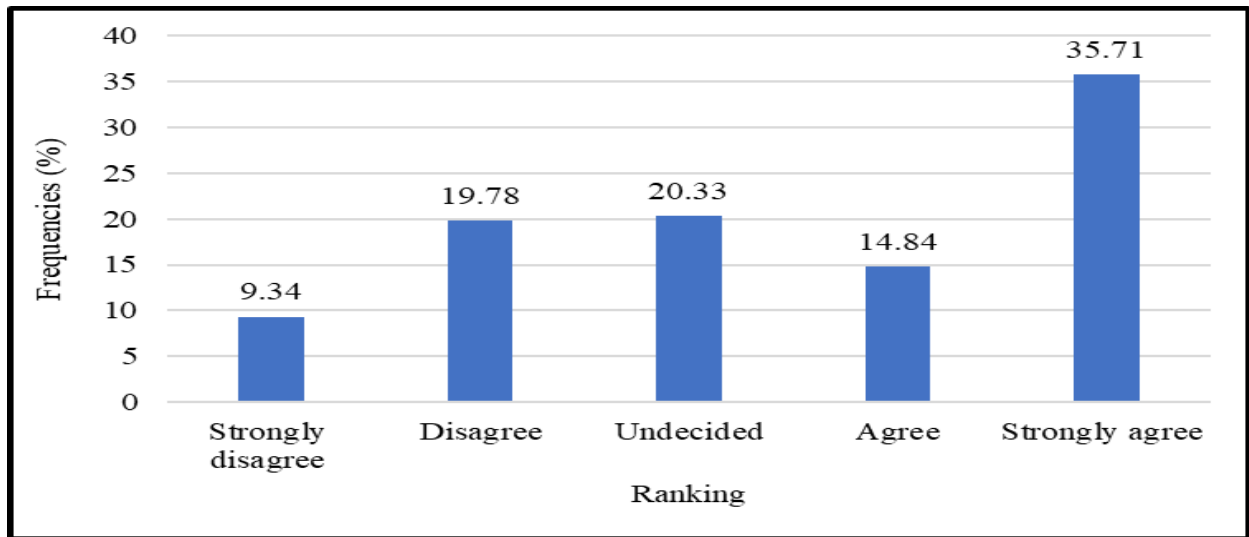
4.4.3 Theft of passenger luggage and personal items in public transport

An inquiry into ranking on the theft of passenger luggage and personal items was crucial in determining the level of reporting by the passengers to the SACCO. Further, the ranking on

the various aspects of the passenger luggage theft would have given an indication into the possible effects theft is likely to have on matatu industry profitability even prior to fitting the regression model.

FIGURE 4.15

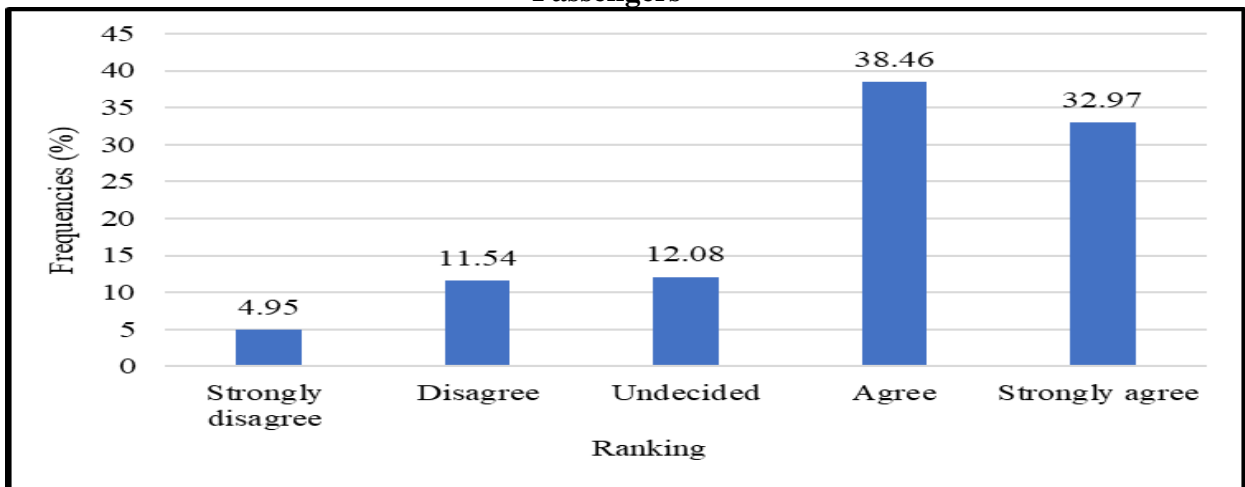
Theft of Passenger Items in Public Transport has Been Rampant in Your SACCO



Source: Author, (2021)

From figure 4.15, results reveal that 22.53 percent of the respondents strongly agree that theft of passenger items has been rampant in their SACCO. Further, 14.84 percent of the respondents were in agreement with this finding. However, 20.33 percent of the respondents were indifferent / undecided as to whether theft of passenger items has been rampant in their SACCO or not. On the other hand, 19.78 percent of the respondents disagrees and 9.34 strongly disagree that theft of passenger items has been rampant in their SACCO. The results therefore to a large extent concur that theft of passenger luggage has been rampant in the matatu industry within Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.16
Theft of the Passenger Items has led to Negative Publicity of Your SACCO Among the Passengers

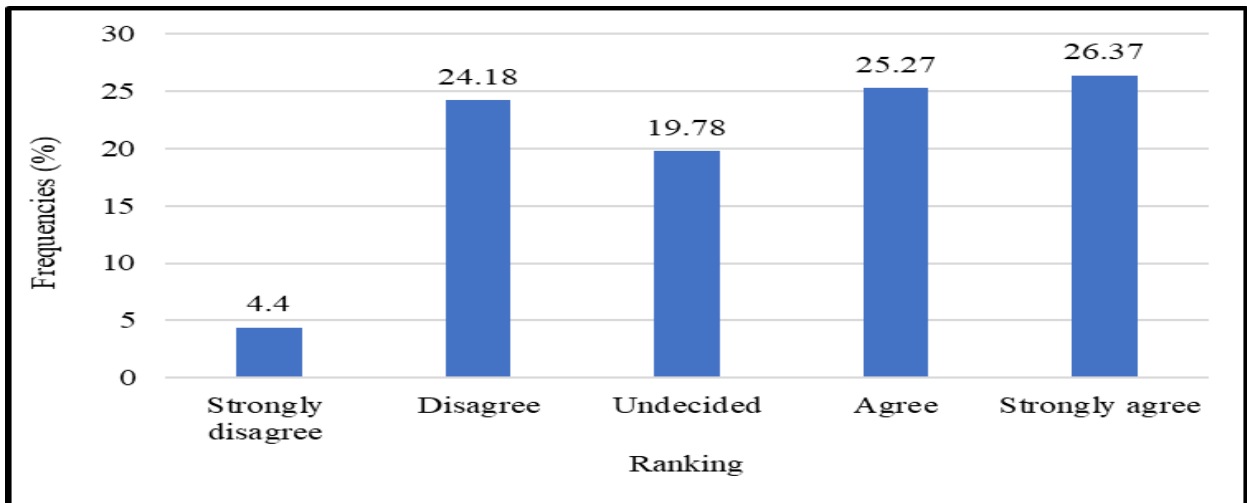


Source: Author, (2021)

From figure 4.16 results reveal that 32.97 percent of the respondents strongly agree that theft of passenger items has led to negative publicity of their SACCO among the passengers. Further, 38.46 percent of the respondents were in agreement with this finding. However, 12.08 percent of the respondents were indifferent / undecided as to whether theft of passenger items has led to negative publicity of their SACCO among the passengers or not. On the other hand, 11.54 percent and 4.95 percent of the respondents disagrees and strongly disagree respectively that theft of passenger items has led to negative publicity of their SACCO among the passengers. The results therefore to a large extent concur that theft of passenger luggage has had a negative effect on the image and reputation of the matatu industry in Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.17

Theft of the Passenger Items has led to Loss of Business to our Competitor SACCO

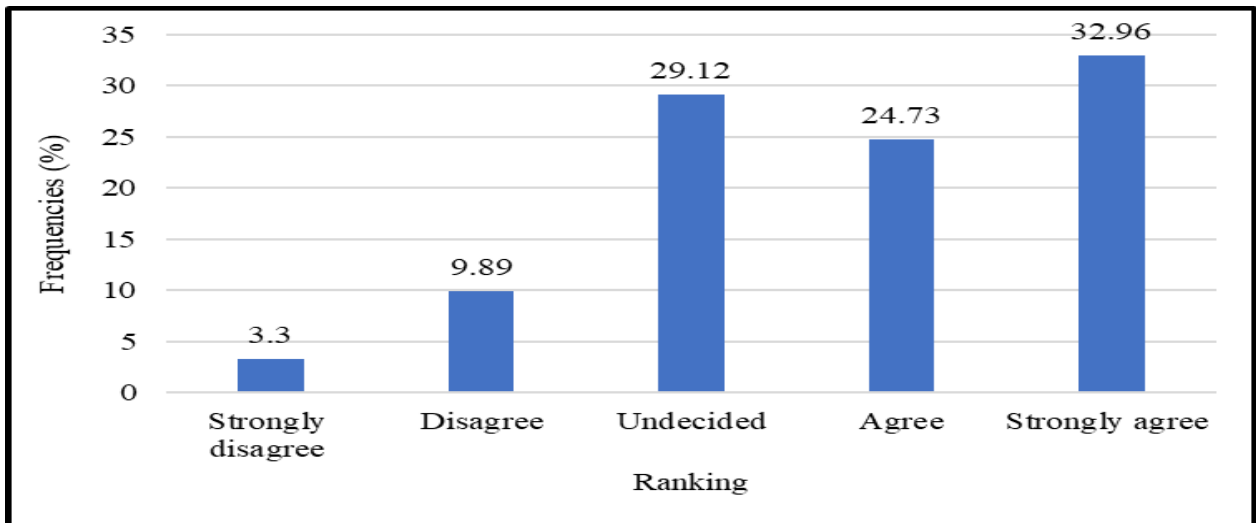


Source: Author, (2021)

From figure 4.18, results reveal that 32.97 percent of the respondents strongly agree that theft of passenger items has led to loss of business to their competitors. Further, 25.27 percent of the respondents were in agreement with this finding. However, 19.78 percent of the respondents were indifferent / undecided as to whether theft of passenger items has led to loss of business to their competitors or not. On the other hand, 24.18 percent and 4.4 percent of the respondents disagrees and strongly disagree respectively that theft of passenger items has led to loss of business to their competitors. The results therefore to a large extent concur that theft of passenger luggage has adversely affected matatu SACCOS in Nairobi with the most affected SACCOS losing their business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.18

Theft of the Passenger Items is a Collusion Between the Driver, Conductor and Thieves



Source: Author, (2021)

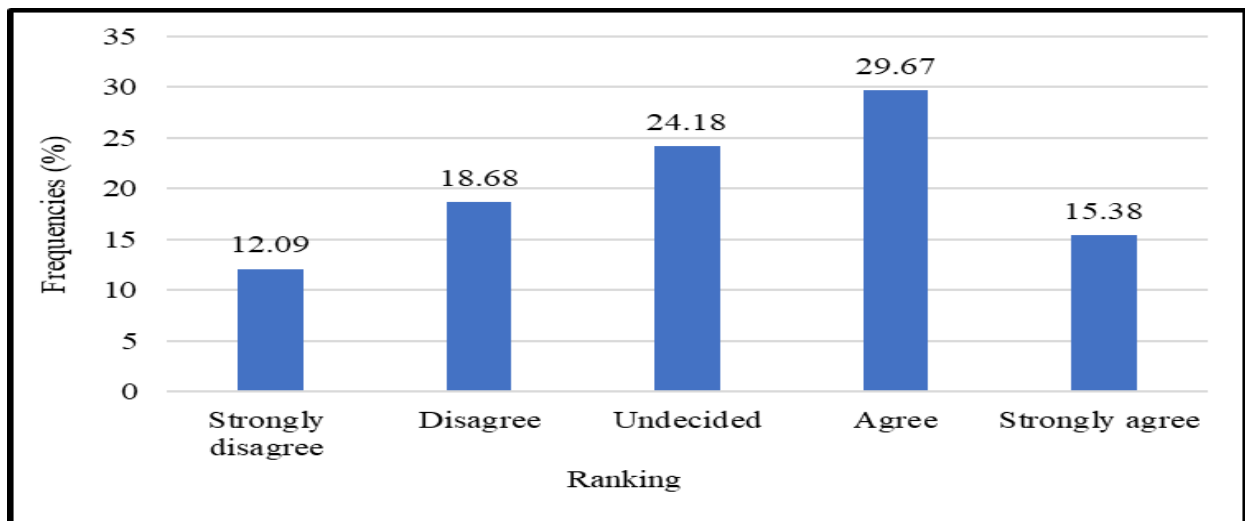
From figure 4.18, results reveal that 32.96 percent of the respondents strongly agree that theft of passenger items is a collusion among drivers, conductors and thieves. Further, 24.73 percent of the respondents were in agreement with this finding. However, 29.12 percent of the respondents were indifferent / undecided as to whether theft of passenger items is a collusion among drivers, conductors and thieves or not. On the other hand, 9.89 percent and 3.3 percent of the respondents disagrees and strongly disagree respectively that theft of passenger items is a collusion among drivers, conductors and thieves. The results therefore to a large extent concur that theft of passenger luggage is mainly done through collusion among drivers, conductors and thieves. This calls for the SACCO administration to carefully vet matatu drivers and conductors as well as conducting regular due diligence of them from time to time.

4.4.4 Passenger drugging in public transport

An inquiry into ranking on the passenger drugging was crucial in determining the level of reporting by the passengers to the SACCO. Further, the ranking on the various aspects of the passenger drugging would have given an indication into the possible effects theft is likely to have on matatu industry profitability even prior to fitting the regression model.

FIGURE 4.19

Drugging of Passenger in Public Transport has Been Rampant in Your SACCO



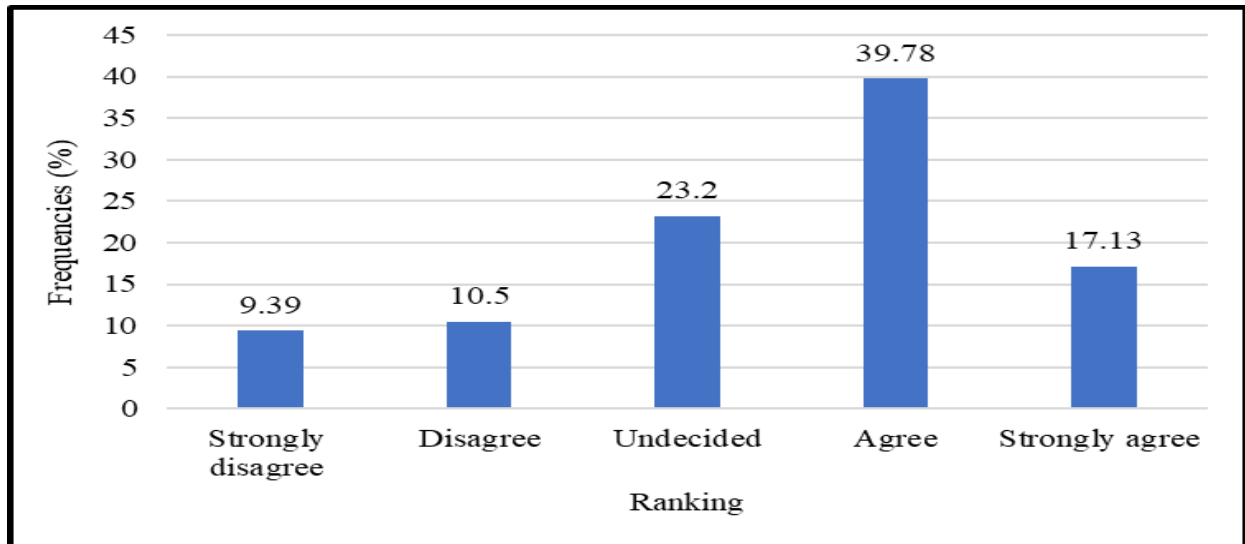
Source: Author, (2021)

From figure 4.19, results reveal that 15.38 percent of the respondents strongly agree that drugging of passengers in public transport is rampant in their SACCO. Further, 29.67 percent of the respondents were in agreement with this finding. However, 24.18 percent of the respondents were indifferent / undecided as to whether drugging of passengers in public transport is rampant in their SACCO or not. On the other hand, 18.68 percent of the respondents disagrees and 12.09 strongly disagree that drugging of passengers in public transport is rampant in their SACCO. The results therefore to a large extent concur that

drugging has been rampant in the matatu industry within Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.20

Drugging of Passenger has led to Negative Publicity of Your SACCO Among the Passengers

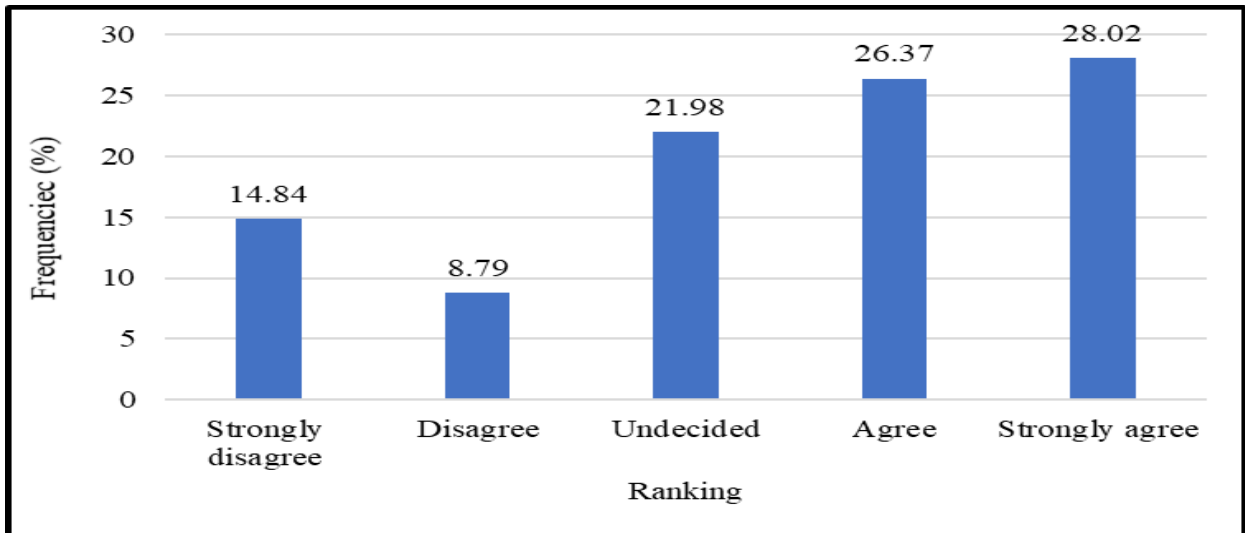


Source: Author, (2021)

From figure 4.20 results reveal that 17.13 percent of the respondents strongly agree that drugging of passenger has led to negative publicity of our SACCO among the passengers. Further, 39.78 percent of the respondents were in agreement with this finding. However, 23.20 percent of the respondents were indifferent / undecided as to whether drugging of passenger has led to negative publicity of our SACCO among the passengers or not. On the other hand, 10.50 percent and 9.39 percent of the respondents disagree and strongly disagree respectively that drugging of passenger has led to negative publicity of our SACCO among the passengers. The results therefore to a large extent concur that drugging has had a negative effect on the image and reputation of the matatu industry in Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.21

Drugging of Passenger has led to Loss of Business to Your Competitor SACCO

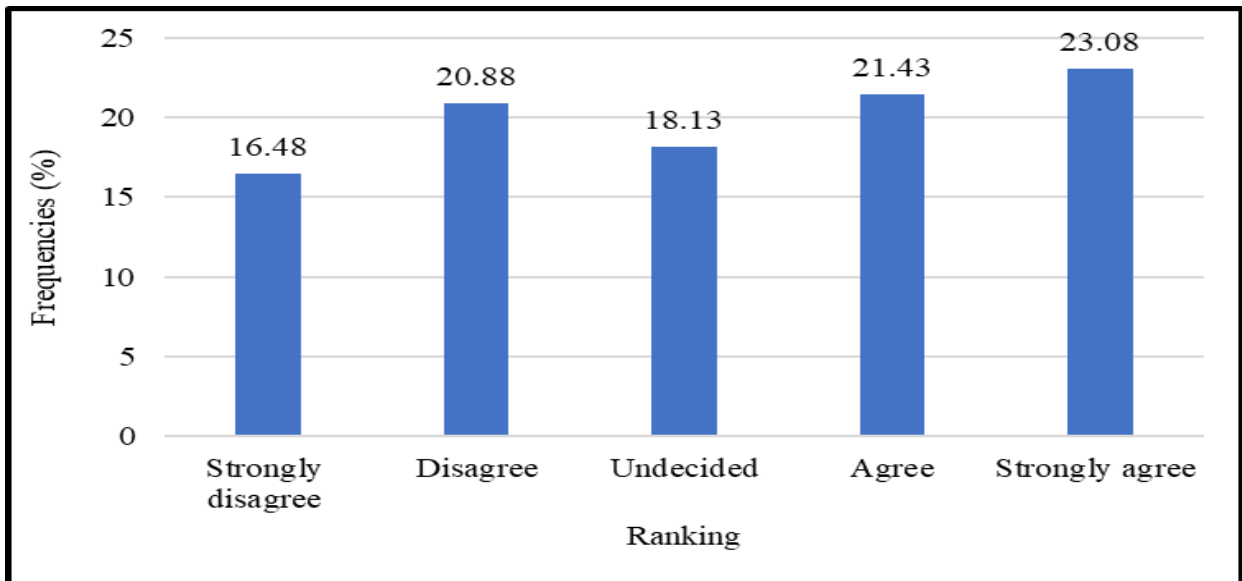


Source: Researcher, 2021

From figure 4.21 results reveal that 28.02 percent of the respondents strongly agree that drugging of passenger has led to the loss of business to our competitor SACCO. Further, 26.37 percent of the respondents were in agreement with this finding. However, 21.98 percent of the respondents were indifferent / undecided as to whether drugging of passenger has led to loss of business to our competitor SACCO or not. On the other hand, 8.79 percent and 14.84 percent of the respondents disagrees and strongly disagree respectively that drugging of passenger has led to loss of business to our competitor SACCO. The results therefore to a large extent concur that drugging has adversely affected matatu SACCOS in Nairobi with the most affected SACCOS losing their business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.22

Drugging of Passenger is a Collusion Between the Driver, Conductor and Thieves



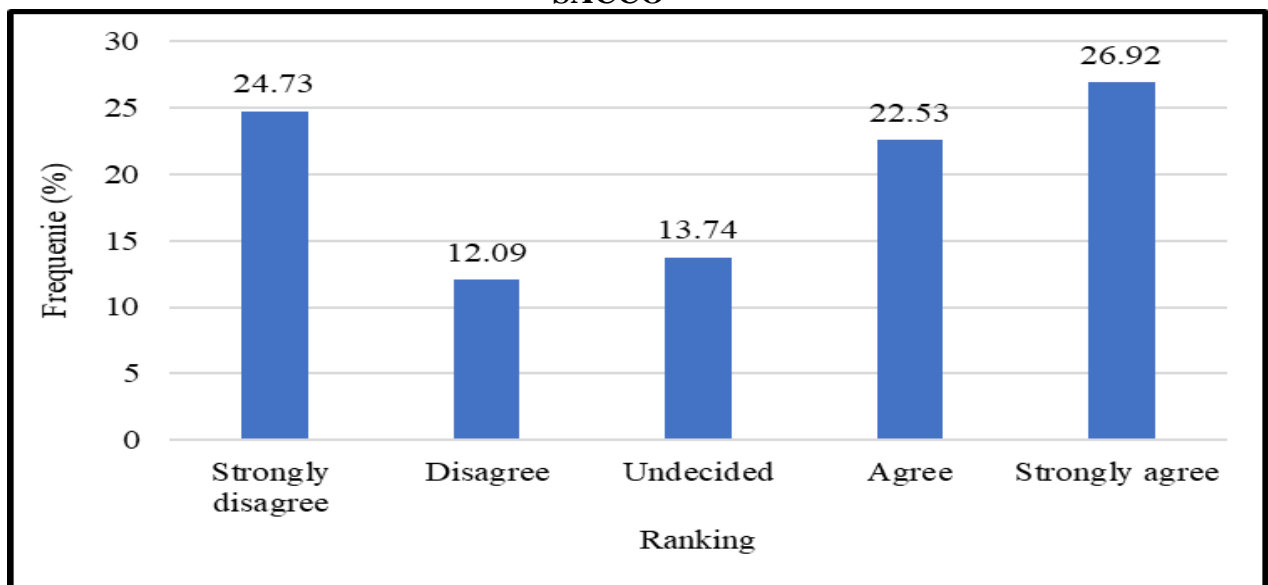
Source: Author, (2021)

From figure 4.22, results reveal that 23.08 percent of the respondents strongly agree that drugging of passenger is a collusion between the driver, conductor and thieves. Further, 21.43 percent of the respondents were in agreement with this finding. However, 18.13 percent of the respondents were indifferent / undecided as to whether drugging of passenger is a collusion between the driver, conductor and thieves or not. On the other hand, 20.88 percent and 16.48 percent of the respondents disagrees and strongly disagree that drugging of passenger is a collusion between the driver, conductor and thieves. The results therefore to a large extent concur that drugging in matatus is mainly done through collusion among drivers, conductors and thieves. The calls for the SACCO administration to carefully vet matatu drivers and conductors as well as conducting regular due diligence of them from time to time.

4.4.5 Ratings of the Effect of Gender-Based Insecurities in the Matatu Industry in Nairobi County.

An inquiry into ranking on the gender – based insecurities was crucial in determining the level of reporting by the passengers to the SACCO. Further, the ranking on the various aspects of gender – based insecurities would give an indication into the possible effects theft is likely to have on matatu industry profitability even prior to fitting the regression model.

FIGURE 4.23
Sexual Violence and Harassment in Matatu Industry has Been Rampant in Your SACCO

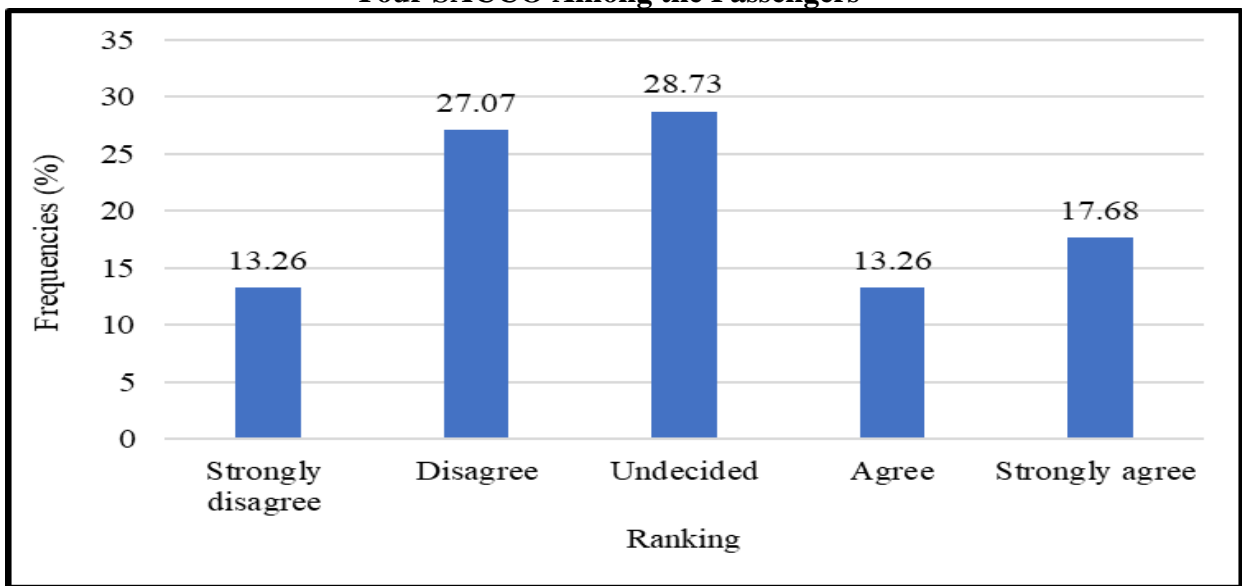


Source: Author, (2021)

From figure 4.23 results reveal that 26.92 percent of the respondents strongly agree that sexual violence and harassment in matatu industry has been rampant in their SACCO. Further, 22.53 percent of the respondents were in agreement with this finding. However, 13.74 percent of the respondents were indifferent / undecided as to whether sexual violence and harassment in matatu industry has been rampant in their SACCO or not. On the other hand, 12.09 percent of the respondents disagree and 24.73 strongly disagree that sexual

violence and harassment in matatu industry has been rampant in their SACCO. The results therefore to a large extent concur that sexual violence and harassment has been rampant in the matatu industry within Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.24
Sexual Violence and Harassment in Matatu Industry has led to Negative Publicity of Your SACCO Among the Passengers

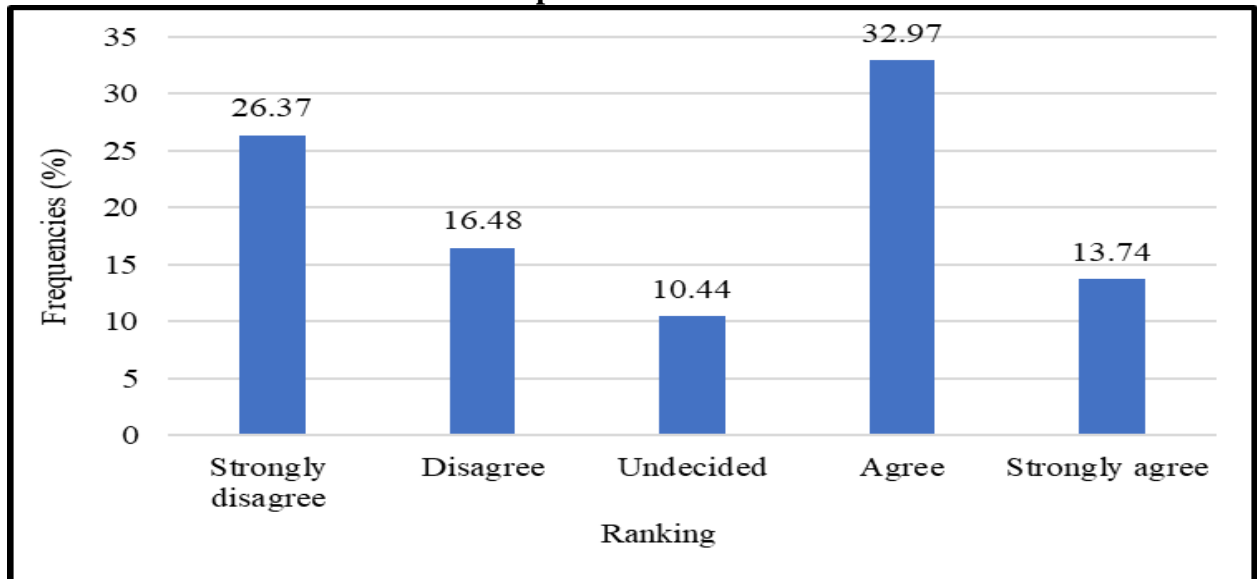


Source: Author, (2021)

From figure 4.24 results reveal that 26.92 percent of the respondents strongly agree that sexual violence and harassment in matatu industry has led to negative publicity of their SACCO among the passengers. Further, 13.26 percent of the respondents agreed with this finding. However, 28.73 percent of the respondents were indifferent / undecided as to whether sexual violence and harassment in matatu industry has led to negative publicity of their SACCO among the passengers or not. On the other hand, 27.07 percent and 13.26 percent of the respondents disagrees and strongly disagree that sexual violence and harassment in matatu industry has led to negative publicity of their SACCO among the

passengers. The results therefore to a large extent concur that sexual violence and harassment has had a negative effect on the image and reputation of the matatu industry in Nairobi County. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.25
Sexual Violence and Harassment in Matatu Industry has led to Loss of Business to Your Competitor SACCO



Source: Author, (2021)

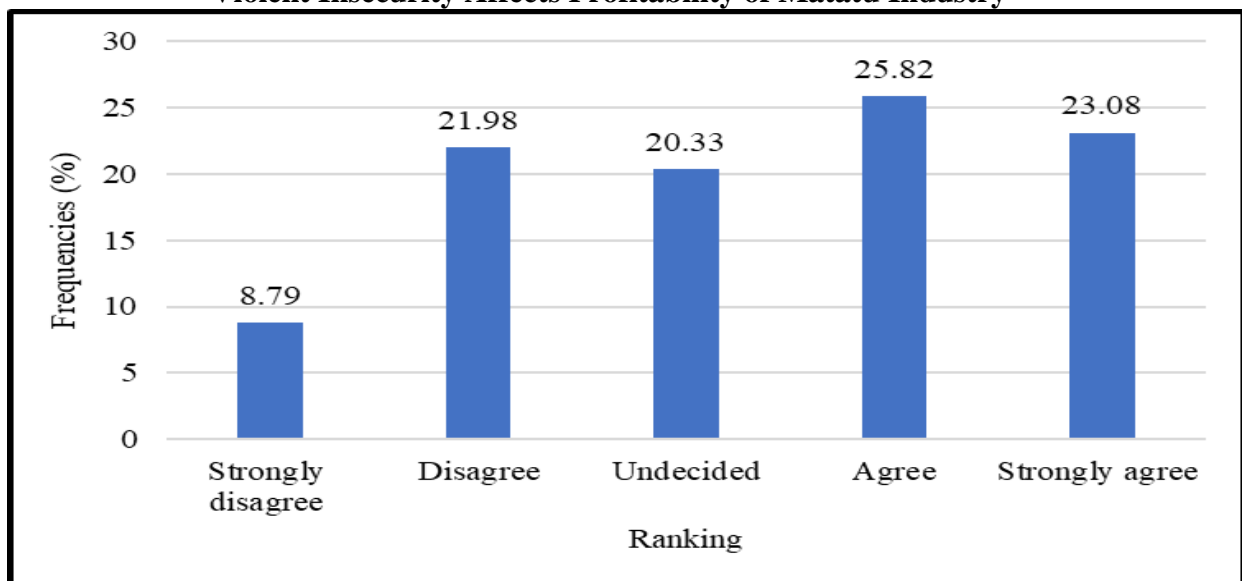
From figure 4.25, results reveal that 13.74 percent of the respondents strongly agree that sexual violence and harassment in matatu industry has led to loss of business to their competitor SACCO. Further, 32.97 percent of the respondents were in agreement with this finding. However, 10.44 percent of the respondents were indifferent / undecided as to whether sexual violence and harassment in matatu industry has led to loss of business to their competitor SACCO or not. On the other hand, 16.48 percent and 26.37 percent of the respondents disagree and strongly disagree that sexual violence and harassment in matatu industry has led to sexual violence and harassment in matatu industry has led to loss of business to their competitor SACCO. The results therefore to a large extent concur that

sexual violence and harassment has adversely affected matatu SACCOS in Nairobi with the most affected SACCOS losing their business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

4.4.6 Ratings on the extent to which violent, non-violent and gender-based insecurities has affected profitability of matatu industry in Nairobi County.

Lastly, the study examined the overall effect of violent, non – violent and gender – based insecurities on the profitability of matatu industry in Nairobi County. Further, the ranking on the various aspects of violent, non – violent and gender – based insecurities would give an indication into the possible effects theft is likely to have on matatu industry profitability even prior to fitting the regression model.

FIGURE 4.26
Violent Insecurity Affects Profitability of Matatu Industry

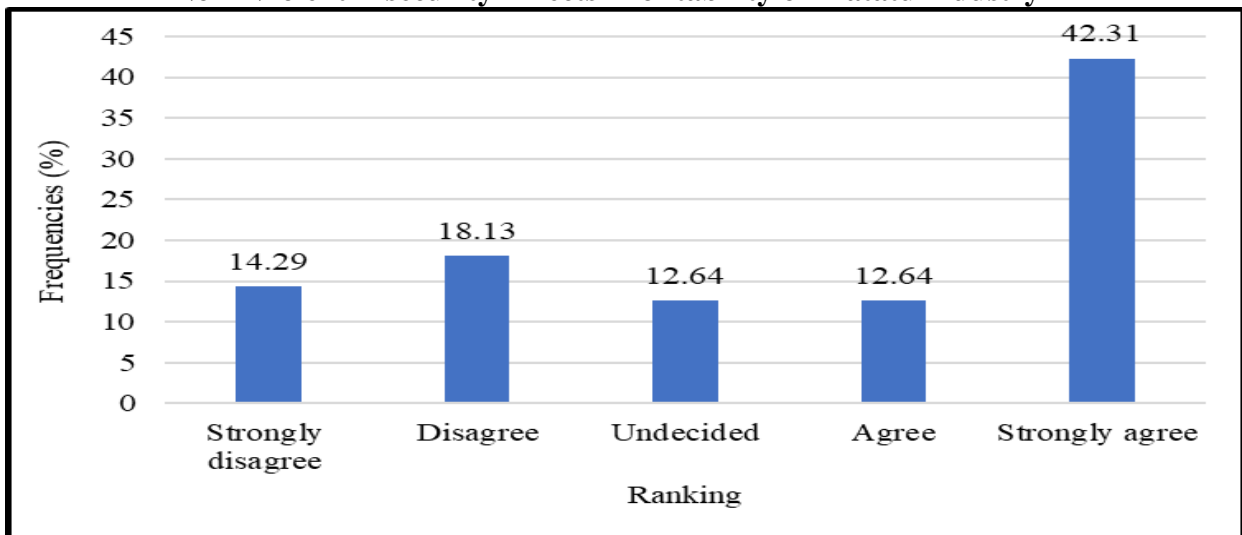


Source: Author, (2021)

From figure 4.26 results reveal that 23.08 percent of the respondents strongly agree that violent insecurity affects profitability of matatu industry. Further, 25.82 percent of the respondents were in agreement with this finding. However, 20.33 percent of the respondents

were indifferent / undecided as to violent insecurity affects profitability of matatu industry or not. On the other hand, 21.98 percent of the respondents disagrees and 8.79 strongly disagree that violent insecurity affects profitability of matatu industry. The results therefore to a large extent concur that violent insecurity has adversely affected matatu SACCOS in Nairobi with the most affected SACCOS through negative publicity as well as the affected SACCOS losing business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.27
Non- Violent Insecurity Affects Profitability of Matatu industry



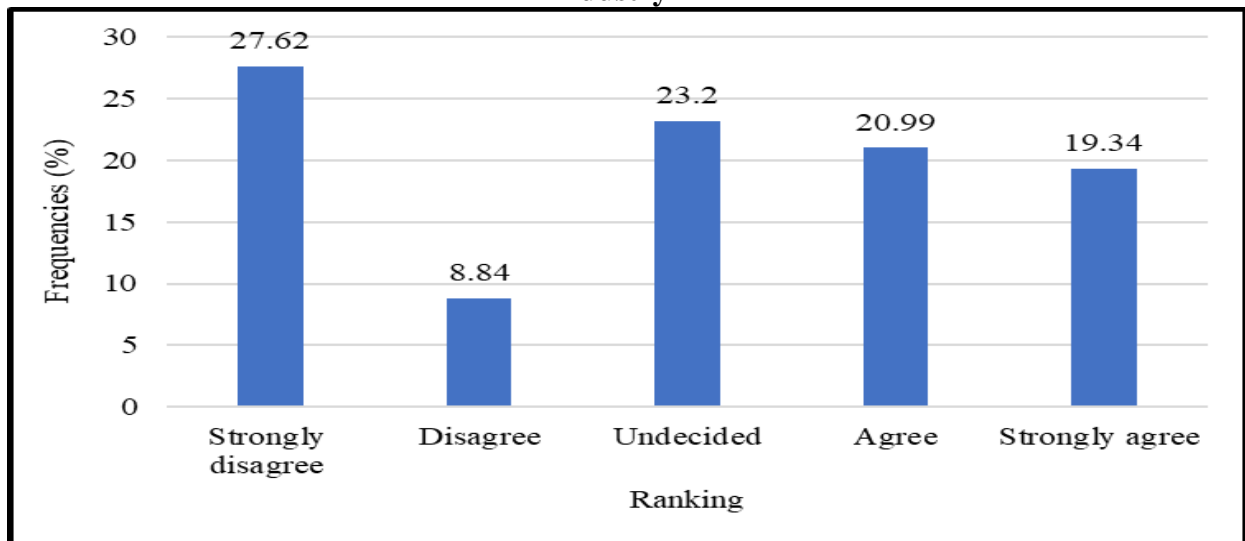
Source: Author, (2021)

From figure 4.27, results reveal that 42.31 percent of the respondents strongly agree that non - violent insecurity affects profitability of matatu industry. Further, 12.64 percent of the respondents were in agreement with this finding. However, 12.64 percent of the respondents were indifferent / undecided as to non - violent insecurity affects profitability of matatu industry or not. On the other hand, 18.13 percent of the respondents disagrees and 14.29 strongly disagree that non - violent insecurity affects profitability of matatu industry. The results therefore to a large extent concur that non-violent insecurity has adversely affected

matatu SACCOS in Nairobi with the most affected SACCOS through negative publicity as well as the affected Saccos losing business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

FIGURE 4.28

Gender – Based Insecurity Affects Profitability of Matatu Industry



Source: Author, (2021)

From figure 4.28, results reveal that 19.34 percent of the respondents strongly agree that gender – based insecurity affects profitability of matatu industry. Further, 20.99 percent of the respondents were in agreement with this finding. However, 23.22 percent of the respondents were indifferent / undecided as to gender – based insecurity affects profitability of matatu industry or not. On the other hand, 8.84 percent of the respondents disagrees and 27.61 strongly disagree that gender – based insecurity affects profitability of matatu industry. The results therefore to a large extent concur that gender – based insecurity has adversely affected matatu SACCOS in Nairobi with the most affected Saccos through negative publicity as well as the affected SACCOS losing business to their competitors. This therefore is likely to affect their earnings and consequently affect the profitability adversely.

Therefore, given these mixed rankings on the overall effect of violent, non – violent and gender – based insecurities on the profitability of matatu industry in Nairobi County, a regression model would be ideal as it would reveal the causality as well as the magnitude of the effect of these various forms of insecurities on profitability of matatu industry in Nairobi County. In addition, is the ability of the regression model to show the significance level of effect of each insecurity form on the profitability of matatu industry in Nairobi County thus enabling hypothesis testing as well as policy implications.

4.5 Model fitting

The study further proceeded to fit the regression model to determine the effect of violent, non – violent and gender – based insecurities on the profitability of matatu industry in Nairobi County. The Ordinary Least Squares regression model defined in the study methodology was fitted using maximum likelihood technique. Prior to estimating the regression model, Principal Component Analysis technique was applied to compute the weighted aggregate ratings for each respondent on each form of insecurity. This was done because from the data collection tool, each form of insecurity had various attributes that the respondent was required to rank independently. Therefore, Principal Component Analysis technique to aggregate and weight respondents’ rankings of various attributes of each type of insecurity and generate a single weight for each type of insecurity from its respective attribute. The weighted aggregates rankings / ratings are what were applied in running the regression model. The regression model for equation 3.2 below was fitted using the weighted aggregates rankings collected from the respondents.

$$\begin{aligned}
 \textit{Profit} = & \alpha + \beta_1 \textit{violent insecurity} + \beta_2 \textit{non violent insecurity} \\
 & + \beta_3 \textit{gender based insecurity} + \dots \dots \dots \epsilon \quad (3.2)
 \end{aligned}$$

The results for the regression model are presented in tables 4 and 5. The

regression model 1 was fitted for aggregated types of insecurities mainly violent, non – violent and gender – based insecurities (table 4). The regression model results indicate that violent insecurity has a negative effect on profitability of matatu industry in Nairobi County. From the results, an increment in the ranking of the effect of violent insecurity leads to profitability of matatu industry by 0.084 units holding other factors constant. The effect was found to be insignificant at 5 percent significance level. Similarly, the study found that non – violent insecurity adversely affected the profitability of matatu industry in Nairobi County. Specifically, an increment in the ranking of the effect of non -violent insecurity was found to reduce profitability in matatu industry by 0.012 units holding other factors constant. The effect was found to be insignificant at 5 percent significance level. Lastly, the study found that gender – based insecurities negatively affected the profitability of matatu industry in Nairobi County. Specifically, an increment in the ranking of the effect of gender – based insecurities lead to a reduction in profitability of matatu industry by 0.086 units holding other factors constant. However, the effect was found to be insignificant at 5 percent significance levels.

TABLE 4.3
Regression Model 1

	Coef.	St. Err.	t-value	p-value	[95% Conf	Interval]	Sig
Violent insecurity	-0.084	0.070	-1.19	0.236	-0.222	-0.55	
Non -violent insecurity	-0.012	0.062	-0.20	0.843	-0.135	-0.110	
Gender based insecurity	-0.086	0.059	-01.46	0.146	-0.203	0.030	
Constant	3.840	0.330	-11.65	0.000	3.189	4.491	***

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Author, (2021)

The study further went ahead to decompose the three types of insecurities (violent, non – violent and gender – based insecurities) into actual forms of insecurities. Regression model was then estimated using the actual forms of insecurities. The results are presented in table 4.3 Under violent insecurity, physical assault and matatu hijacking were used. For non – violent insecurity, passenger luggage theft and drugging were used. For gender – based insecurities, sexual violence and harassment was used.

The regression model results in table 4.4 show that physical assault has a negative effect on profitability in matatu industry in Nairobi County. A one rank increase in the ranking of physical assault was found to reduce profitability by 0.079 units holding other factors constant. The effect was however found to be insignificant at 5 percent significance level. Similarly, matatu hijacking, theft of passengers’ luggage, drugging and sexual violence and harassment were found to negatively affect profitability with the effect being insignificant at 5 percent significance level.

TABLE 4.4

Regression Model 2

	Coef.	St. Err.	t-value	p-value	[95% Conf	Interval]	Sig
Physical assault	-0.079	0.086	-0.92	0.361	-0.250	0.091	
Matatu hijacking	-0.001	0.084	-0.01	0.995	-0.167	0.166	
Passenger luggage theft	-0.138	0.099	-1.40	0.163	-0.333	0.056	
Drugging	-0.092	0.075	-0.22	0.223	-0.240	0.056	
Sexual violence and harassment	-0.059	0.070	-0.85	0.396	-0.197	0.078	
Constant	4.194	0.618	6.79	0.000	2.94	5.414	***

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Author, (2021)

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the summary, conclusion and recommendations of the study. Specifically, the chapter presents summary of the findings after data analysis in line with the study variables. In addition is the coverage of the study conclusions arising from the summary of the findings. Lastly, are the policy recommendations drawn from the study findings.

5.2 Summary

Based on the study findings, a summary of the findings is compiled. The summary basically present's the study findings in shortened format mainly revolving around the key study findings. In developing the summary of the findings, this is done in line with the study specific objectives. The summary of the findings encompasses the findings regarding the descriptive analysis results of the variables as well as the regression results of the empirical model. The summary therefore encompasses the effect of violent, non – violent and gender – based insecurities on profitability of matatu industry in Nairobi County in Kenya.

5.2.1 Effect of violent insecurity on the profitability of matatu industry in Nairobi County.

From the descriptive statistics, the study found that respondents' ranking on the effect of physical assault directed to passengers show that majority of respondents agree and strongly agree that physical assault of passengers led to the loss of business to competitors (59.34 percent). Similarly, majority of respondents agree and strongly agree that physical assault of passengers led to negative publicity of the SACCO (58.24 percent). Further, majority of respondents agree and strongly agree that physical assault of passengers has been rampant in

their SACCO (55.49 percent). However, a sizeable proportion of respondents (20.33 percent) strongly disagreed that passengers' physical assault was rampant in their SACCO.

Further, the ranking of effect of matatu hijacking show that majority of respondents agree and strongly agree that matatu hijacking led to the loss of business to competitors (59.39 percent). Similarly, majority of respondents agree and strongly agree that matatu hijacking led to negative publicity of the Sacco (58.79 percent). Further, majority of respondents agree and strongly disagree that matatu hijacking has been rampant in their Sacco (56.0 percent).

The regression model results indicate that violent insecurity has a negative effect on profitability of matatu industry in Nairobi County. From the results, an increment in the ranking of the effect of violent insecurity leads to a decrease in profitability of matatu industry by 0.084 units holding other factors constant. The effect was found to be insignificant at 5 percent significance level. Upon decomposition of the violent insecurity and estimating regression model, the results show that physical assault has a negative effect on profitability in matatu industry in Nairobi County. A one rank increase in the ranking of physical assault was found to reduce profitability by 0.079 units holding other factors constant. The effect was however found to be insignificant at 5 significance level. Similarly, matatu hijacking was found to negatively affect profitability with the effect being insignificant at 5 percent significance level.

Based on the regression model results, the null hypothesis that violent insecurity has no effect on profitability of matatu industry in Nairobi County was tested against the alternative hypothesis that violent insecurity has effect on profitability of matatu industry in Nairobi County. Using 5 percent significance level and two – tail test, we found that the p –

value of the coefficient on violent insecurity under model 1 is -1.19 This p – value is greater than 5 percent significance level. Therefore, we accept the null hypothesis and fail to reject the alternative hypothesis implying that violent insecurity significantly affects profitability of matatu industry in Nairobi County negatively.

5.2.2 Effect of non- violent insecurity on the profitability of matatu industry in Nairobi County.

From the descriptive statistics, the study found that respondents’ ranking on the effect of theft of passengers’ luggage and personal items show that majority of respondents agree and strongly agree that passengers’ luggage and personal items led to the loss of business to competitors (51.64 percent). Similarly, majority of respondents agree and strongly agree that theft of passengers’ luggage and personal items led to negative publicity of the SACCO (71.43 percent). Further, majority of 50.55 percent of respondents agree and strongly agree that theft of passengers’ luggage and personal items has been rampant in their SACCO. The respondents agreed and strongly agreed that theft of passengers’ luggage and personal items was majorly due to a collusion among matatu driver, conductors and thieves (57.69 percent).

Further, an examination of the ranking of effect of drugging of passengers in public transport show that majority of respondents agree and strongly agree that drugging of passengers led to the loss of business to competitors (54.39 percent). Similarly, majority of respondents agree and strongly agree that drugging of passengers led to negative publicity of the SACCO (56.91 percent). Further, majority of 45.05 percent of respondents agree and strongly agree that drugging of passengers has been rampant in their SACCO. The respondents majorly agreed and strongly agreed that theft of passengers’ luggage and personal items was majorly due to a collusion among matatu driver, conductors and thieves (44.51 percent).

The regression model results indicate that non – violent insecurity adversely affected profitability of matatu industry in Nairobi County. Specifically, an increment in the ranking of the effect of non -violent insecurity was found to reduce profitability in matatu industry by 0.012 units holding other factors constant. The effect was found to be significant at 1 percent significance level. Upon decomposition of non - violent insecurity and estimating regression model, the results show that theft of passengers’ luggage, negatively affect profitability. Similar results were found for drugging with the effect on profitability though the effect was insignificance at 5 percent significance level.

Based on the regression model results, the null hypothesis that non - violent insecurity has no effect on profitability of matatu industry in Nairobi County was tested against the alternative hypothesis that non - violent insecurity has effect on profitability of matatu industry in Nairobi County. Using 5 percent significance level and two – tail test, we find that the p – value of the coefficient on violent insecurity under model 1 is 0.020. This p – value is greater than 5 percent significance level. Therefore, we accept the null hypothesis and fail to reject the alternative hypothesis implying that non - violent insecurity insignificantly affect profitability of matatu industry in Nairobi County negatively.

5.2.3 Effect of gender – based insecurity on the profitability of matatu industry in Nairobi County.

From the descriptive statistics, the study found that respondents’ ranking on the effect of gender – based insecurity show that majority of respondents agree and strongly agree that gender-based insecurity led to the loss of business to competitors (46.71 percent). Similarly, majority of respondents are undecided that gender-based insecurity has led to negative publicity of the SACCO (28.73 percent). However, majority of 49.45 percent of respondents agree and strongly agree that gender-based insecurity has been rampant in their SACCO. It is

however notable that a sizeable proportion of respondents strongly disagree that gender – based insecurities are rampant in their Sacco and has led to loss of business to competitors at 24.74 and 26.37 percent respectively.

The regression model results found that gender – based insecurities negatively affected the profitability of matatu industry in Nairobi County. Specifically, an increment in the ranking of the effect of gender – based insecurities lead to a reduction in profitability of matatu industry by 0.086 units holding other factors constant. However, the effect was found to be insignificant at 5percent significance levels. Further, upon decomposition of gender - based insecurities and estimating regression model, results indicate that sexual violence and harassment was found to adversely affect profitability in matatu industry whilst insignificant at 5 significance level.

Based on the regression model results, the null hypothesis that gender – based insecurities have no effect on profitability of matatu industry in Nairobi County was tested against the alternative hypothesis that gender – based insecurities have effect on profitability of matatu industry in Nairobi County. Using 5 percent significance level and two – tail test, we found that the p – value of the coefficient on gender – based insecurities under model 1 is 0.059. This p – value is greater than 5 percent significance level. Therefore, we fail to reject the null hypothesis and reject the alternative hypothesis implying that gender – based insecurities do not significantly affect profitability of matatu industry in Nairobi County.

5.3 Conclusions

Based on the study findings, the study concludes that in overall violent, non – violent and gender – based insecurity negatively affects profitability of matatu industry in Nairobi County in Kenya. However, from the study findings, it's clear that non – violent insecurities

comprising of theft of passengers' luggage and drugging have the highest negative effect on profitability. This could be explained by the fact that they are the easiest to be perpetrated without ease of realization and therefore are more likely to be rampant as opposed to violent insecurities which are easily noticeable and require much effort and planning for the perpetrators to commit. The study also concluded that although gender – based insecurities negatively affect profitability of matatu industry in Nairobi County in Kenya, the magnitude of their effect is much muted. This could be explained by low incidences of such insecurities compared to other forms of insecurities. Further, the low level of such incidences could be explained by the perpetrators' fear of legal consequences upon being apprehended.

5.4 Recommendations

Based on the study's conclusion, the study recommends a number of policy actions. First, is the need for a multi- agents / stakeholder's approach to the menace of insecurity in matatu industry. This policy action entails collaboration between matatu owners through SACCOS, security agencies such as police and the passengers as well. Set up of security incidences reporting lines with stickers on the same mounted in matatus, passengers pick up and drop terminals would go a long way in reducing such incidences in the industry.

Secondly is the need for awareness creation and sensitization of the matatu owners and SACCOs on the need to enhance security in their areas of operations given the negative effect insecurity has on their businesses. Efforts such as employing personal guards at the matatu terminals, installing matatus with security monitoring devices such as CCTVs would go a long way in reducing such insecurity incidences in the industry. Further, regulations by the National Transport Authority requiring matatu SACCOs to put up security measures and supervise adherence to these regulations is a welcome policy action. Thirdly is the need for

national and county government to form a special security unit to deal with insecurity incidences within Nairobi Central Business District and the Nairobi metropolitan at large.

5.5 Recommendations for Future Research

From the study findings, the study recommends the need for future studies to replicate the same study in other major cities in Kenya. This would inform how the effect of violent, non – violent and gender – based insecurities on profitability of matatu industry would compare across major cities in Kenya. Secondly, with the evolving types of transport such as uber, boda boda and railway transit, there is need for future studies to focus on these forms of transport from insecurity lens and how such insecurities affect their respective operations and profitability.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Introduction

My name is Duke Sanganyi, a student at KCA University graduate school. This questionnaire is to enable me to collect data for undertaking my research project entitled “effects of insecurity in the profitability of matatu industry in Nairobi County”. The information sought in this questionnaire will be treated with confidentiality and will be purely used for the intended academic work. Anonymity of the respondents will be highly observed. I therefore kindly wish to take a few of your time to go through the following questions.

Section one: Details of the respondent

Name (optional).....
 Contacts (Optional).....
 Gender Male [] Female []
 Matatu SACCO you are currently working in
 Which route(s) does the SACCO operate in
 Number of years you have worked in the current matatu Sacco.....
 Position you are holding at the Sacco

Section two: main types of insecurities evidenced in matatu industry in Kenya

Are you aware of violent insecurity in public sector transport in your Sacco?	Yes [] No []
If yes in question 1 above, which forms of violent insecurity in public sector transport are you aware of? (Tick all that apply)	Physical assault [] Matatu hijacking [] Others (Specify).....
Are you aware of no-violent insecurity in public sector transport in your Sacco?	Yes. [] No []
Which of the following forms of no-violent insecurity in public sector transport have you experienced in your Sacco? (Tick all that apply)	Theft of passenger luggage and personal items. [] Drugging in matatu [] Others (Specify).....
Are you aware of gender-based insecurity in public sector transport in your Sacco?	Yes. [] No []

Which of the following forms of gender-based insecurity in public sector transport have you experienced in your Sacco?	Sexual violence [] Sexual Harassment [] Others (Specify).....

Section three: Examination of the effect of violent insecurities in the matatu industry in Nairobi County.

In a scale of 1 to 5, kindly rate the following statements regarding passenger Physical assault in public transport (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree)					
	1	2	3	4	5
Passenger physical assault in public transport has been rampant in our Sacco					
Passenger physical assault has led to negative publicity of our Sacco among the passengers					
Passenger physical assault has led to loss of business to our competitor Sacco					

In a scale of 1 to 5, kindly rate the following statements regarding Matatu hijacking in public transport (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree)					
	1	2	3	4	5
Matatu hijacking in public transport has been rampant in our Sacco					
Matatu hijacking has led to negative publicity of our Sacco among the passengers					
Matatu hijacking has led to loss of business to our competitor Sacco					

Section four: Examination of the effect of non - violent insecurities in the matatu industry in Nairobi County.

In a scale of 1 to 5, kindly rate the following statements regarding theft of passenger luggage and personal items in public transport (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree)					
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	1	2	3	4	5
Theft of passenger items in public transport has been rampant in our Sacco					
Theft of the passenger items has led to negative publicity of our Sacco among the passengers					
Theft of the passenger items has led to loss of business to our competitor Sacco					
Theft of the passenger items is a collusion between the driver, conductor and thieves					

In a scale of 1 to 5, kindly rate the following statements regarding passenger drugging in public transport (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree)					
	1	2	3	4	5
Drugging of passenger in public transport has been rampant in our Sacco					
Drugging of passenger has led to negative publicity of our Sacco among the passengers					
Drugging of passenger has led to loss of business to our competitor Sacco					
Drugging of passenger is a collusion between the driver, conductor and thieves					

Section five: Examination of the effect of Gender based insecurities in the matatu industry in Nairobi County.

In a scale of 1 to 5, kindly rate the following statements regarding Sexual violence and harassment in matatu industry (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).					
	1	2	3	4	5
Sexual violence and harassment in matatu industry has been rampant in our Sacco					
Sexual violence and harassment in matatu industry has led to negative publicity of our Sacco among the passengers					
Sexual violence and harassment in matatu industry has led to loss of business to our competitor Sacco					

Section six: Examination of the effect of specific matatu insecurities on the profitability of matatu industry in Nairobi County.

In a scale of 1 to 5, kindly rate the extent to which violent, non-violent and gender-based insecurities has affected profitability of matatus operating within your Sacco (1 = Very					

Little Extent, 2 = Little Extent, 3 = Some Extent, 4 = Great Extent, 5 = Very Great Extent)?					
	1	2	3	4	5
Violent insecurity					
Non- violent insecurity					
Gender-based insecurity					

END

Thank you so much for your time in answering the questionnaire.